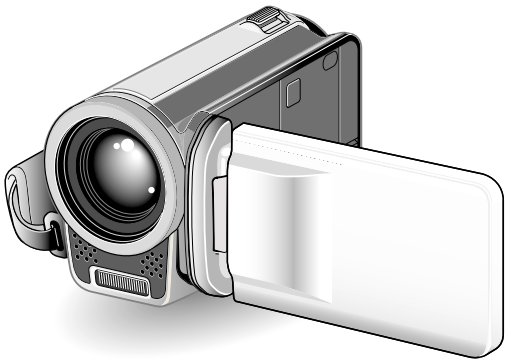
FILE NO.

SANYO

SERVICE MANUAL

Dual Camera



Contents

❗RoHS

- This product does not contain any hazardous substances prohibited by the RoHS Directive.

⚠WARNING

- You are requested to use RoHS compliant parts for maintenance or repair.
- You are requested to use lead-free solder.

(This product has been manufactured using lead-free solder. Be sure to follow the warning given on page 2 when carrying out repair work.)

CAUTION : Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacturer's instructions.

NOTE : 1. Parts order must contain model number, part number, and description.
2. Substitute parts may be supplied as the service parts.
3. N. S. P. : Not available as service parts.

Design and specification are subject to change without notice.

VPC-TH1
(Product Code : 168 173 02)
(U.S.A.) (Canada) (Taiwan) (General)

VPC-TH1EX
(Product Code : 168 173 03)
(Europe) (U.K.) (South America)
(China) (Australia) (Hong Kong)
(Russia) (Middle East) (Africa)
(General) (Korea) (Taiwan)

VPC-TH1GX
(Product Code : 168 173 04)
(South America) (China)
(Australia) (Hong Kong)
(General) (Korea) (Taiwan)

VPC-TH1R
(Product Code : 168 173 06)
(U.S.A.) (Canada) (Taiwan) (General)

VPC-TH1EXR
(Product Code : 168 173 07)
(Europe) (U.K.) (South America)
(China) (Australia) (Hong Kong)
(Russia) (Middle East) (Africa)
(General) (Korea) (Taiwan)

VPC-TH1GXR
(Product Code : 168 173 08)
(South America) (China)
(Australia) (Hong Kong)
(General) (Korea) (Taiwan)

VPC-TH1BL
(Product Code : 168 173 10)
(U.S.A.) (Canada) (Taiwan) (General)

VPC-TH1EXBL
(Product Code : 168 173 11)
(Europe) (U.K.) (South America)
(China) (Australia) (Hong Kong)
(Russia) (Middle East) (Africa)
(General) (Korea) (Taiwan)

VPC-TH1GXBL
(Product Code : 168 173 12)
(South America) (China)
(Australia) (Hong Kong)
(General) (Korea) (Taiwan)

VPC-ZH1R
(Product Code : 168 173 13)
(U.S.A.) (Canada)

REFERENCE No. SM5310773

PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage, and voltage ratings shown.

WARNING

Do not use solder containing lead.

This product has been manufactured using lead-free solder in order to help preserve the environment.
Because of this, be sure to use lead-free solder when carrying out repair work, and never use solder containing lead.

Lead-free solder has a melting point that is 30 - 40°C (86 - 104°F) higher than solder containing lead, and moreover it does not contain lead which attaches easily to other metals. As a result, it does not melt as easily as solder containing lead, and soldering will be more difficult even if the temperature of the soldering iron is increased.
The extra difficulty in soldering means that soldering time will increase and damage to the components or the circuit board may easily occur.
Because of this, you should use a soldering iron and solder that satisfy the following conditions when carrying out repair work.

Soldering iron

Use a soldering iron which is 70 W or equivalent, and which lets you adjust the tip temperature up to 450°C (842°F). It should also have as good temperature recovery characteristics as possible.
Set the temperature to 350°C (662°F) or less for chip components, to 380°C (716°F) for lead wires and similar, and to 420°C (788°F) when installing and removing shield plates.
The tip of the soldering iron should have a C-cut shape or a driver shape so that it can contact the circuit board as flat or in a line as much as possible.

Solder

Use solder with the metal content and composition ratio by weight given in the table below. Do not use solders which do not meet these conditions.

Metal content	Tin (Sn)	Silver (Ag)	Copper (Cu)
Composition ratio by weight	96.5 %	3.0 %	0.5 %

Lead-free solder is available for purchase as a service tool.
Use the following part number when ordering:
Part name: Lead-free solder with resin (0.5 mm dia., 500 g)
Part number: VJ8-0270

Note:
If replacing existing solder containing lead with lead-free solder in the soldered parts of products that have been manufactured up until now, remove all of the existing solder at those parts before applying the lead-free solder.

1. OUTLINE OF CIRCUIT DESCRIPTION

1-1. CMOS CIRCUIT DESCRIPTION

1. IC Configuration

The CMOS peripheral circuit block basically consists of the following ICs.

IC911 (MT9J001I12STCV)

CMOS imager
CDS, AGC, ADC built-in
H driver, V driver, serial communication circuit built-in

2. IC911 (CMOS)

[Structure]

The electric charges which are generated when each pixel is optically converted are in turn converted into signal voltages by the FD amplifier, and they are then transmitted by the built-in H driver and V driver. The signals are sampled and amplified by the CDS and PGA circuits at the point they are output, and then they are AD converted and output. The output uses the 12 bit LVDS interface.

1/2.3-inch positive pixel array CMOS-type fixed imaging element

Effective pixels	3856 (H) X 2764 (V)

1-2. CP1 and VF1 CIRCUIT DESCRIPTION

1. Circuit Description

1-1. Digital clamp

The optical black section of the extracts averaged values from the subsequent data to make the black level of the output data uniform for each line. The optical black section averaged value for each line is taken as the sum of the value for the previous line multiplied by the coefficient k and the value for the current line multiplied by the coefficient 1-k.

1-2. Signal processor

1. γ correction circuit

This circuit performs (gamma) correction in order to maintain a linear relationship between the light input to the camera and the light output from the picture screen.

2. Color generation circuit

This circuit converts the image sensor into RGB signals.

3. Matrix circuit

This circuit generates the Y signals, R-Y signals and B-Y signals from the RGB signals.

4. Horizontal and vertical aperture circuit

This circuit is used gemerate the aperture signal.

1-3. AE/AWB and AF computing circuit

The AE/AWB carries out computation based on a 64-segment screen, and the AF carries out computations based on a 6-segment screen.

1-4. SDRAM controller

This circuit outputs address, RAS, CAS and CS data for controlling the SDRAM. It also refreshes the SDRAM.

1-5. Communication control

1. SDIO

This is the interface for the 8-bit microprocessor.

1-6. Digital encorder

It generates chroma signal from color difference signal.

2. Outline of Operation

When the shutter opens, the reset signals (ASIC and CPU) and the serial signals (“take a picture” commands) from the 8-bit microprocessor are input and operation starts.

The picture data from CMOS passes through the A/D and CDS, and is then input to the ASIC as digital data. The AF, AE, AWB, shutter, and AGC value are computed from this data, and three exposures are made to obtain the optimum picture. The data which has already been stored in the SDRAM is read by the CPU and color generation is carried out. Each pixel is interpolated from the surrounding data as being either R, G, and B primary color data to produce R, G and B data. At this time, correction of the lens distortion which is a characteristic of wide-angle lenses is carried out. After AWB and γ processing are carried out, a matrix is generated and aperture correction is carried out for the Y signal, and the data is then compressed by JPEG and is then written to card memory (SD card).

When the data is to be output to an external device, it is taken data from the memory and output via the USB I/F. When played back on the LCD and monitor, data is transferred from memery to the SDRAM, and the image is then elongated so that it is displayed over the SDRAM display area.

3. LCD Block

The LCD display circuit is located on the CP1 board and VF1 board, and consists of components such as a power circuit.

The signals from the ASIC are 8-bit digital signals, that is input to the LCD directly. The 8-bit digital signals are converted to RGB signals inside the LCD driver circuit . This LCD has a 3-wire serial, and functions such as the brightness and image quality are controlled.

Because the LCD closes more as the difference in potential between the VCOM (common polar voltage: AC) and the R, G and B signals becomes greater, the display becomes darker; if the difference in potential is smaller, the element opens and the LCD become brighter.

In addition, the timing pulses for signals other than the video signals are also input from the ASIC directory to the LCD.

4. Lens drive block

4-1. Focus drive

The 16-bit serial data signals (LENS_SDI) and (LENS_SCLK and LENS_EN) which are output from the ASIC (IC101) are used to drive (FOCUS A +, FOCUS A -, FOCUS B + and FOCUS B -) by the motor driver IC (IC951), and are then used to microstep-drive the stepping motor for focusing operation. Detection of the standard focusing positions is carried out by means of the photointerruptor (F_SENSE) inside the lens block.

4-2. Zoom drive

The 16-bit serial data signals (LENS_SDI) and (LENS_SCLK and LENS_EN) which are output from the ASIC (IC101) are used to drive (ZOOM A +, ZOOM A -, ZOOM B + and ZOOM B -) by the motor driver IC (IC951), and are then used to microstep-drive the stepping motor for zooming operation. Detection of the standard zooming positions is carried out by means of the photointerruptor (F_SENSE) inside the lens block.

4-3. Iris drive

The drive method is a galvanometer type without braking coil. The output from the Hall sensor inside the lens is amplified by the Hall amplifier circuit inside the IC951 lens drive IC, and the difference between the current and target aperture determined by the resulting output and the exposure amout (16 bit serial signal (LENS_SDI) and (LENS_SCLK and LENS_EN)) output from the ASIC (IC101) is input to the servo amplifier circuit (IC951) to keep the aperture automatically controlled (DRIVE+ and DRIVE -) to the target aperture.

4-4. Shutter drive

Reverse voltage is applied to the above aperture drive coil to operate the shutter. When the shutter operates, the SHUTTER + signal that is output from the ASIC (IC101) becomes high (input to SHUTTER of IC951) and the shutter operates.

5. Video Clip Recording and Playback

5-1. Recording

The signal from the camera block is input to IC101 (ASIC). The data that is input to the ASIC is input to SDRAM, and converts this data to encoded MPEG4 data, after which it is written in sequence onto the SD card as streaming data. At this time, the audio signals that are input to the built-in microphone are converted into digital data by the audio CODEC IC of IC183, and they are then input to ASIC. The audio data is then encoded (AAC), and then it is written in sequence onto the SD card together as streaming data with the image signals described above.

5-2. Playback

The data is read from the SD card, and the encoded data is decoded into image data where it is displayed by the LCD or on a TV monitor. At the same time, the audio data is also decoded, and is input to IC182 as digital data. D/A conversion is carried out at IC182, and the sound is then output to the speaker or to the LINE OUT terminal.

6. Audio CODEC Circuit (IC182)

The audio signals from the microphone are converted into 16-bit digital data. AD conversion is carried out at a maximum sampling frequency of 48 kHz.

During audio playback, the 16-bit digital data is converted into analog signals and these drive headphone through the speaker or line out system and headphone amplifier. DA conversion is carried out at a maximum sampling frequency of 48 kHz.

1-3. PWA POWER CIRCUIT DESCRIPTION

1. Outline

This is the main power circuit, and is comprised of the following blocks.
Switching controller (IC501)
Motor system power output (L5301)
Digital 3.25 V power output (L5002)
Digital 1.2 V power output (L5003)
Backlight power output (Q5007, L5007)
Digital and CMOS 1.8 V power output (IC504, L5006)
CMOS analog 2.8 V power output (IC503, L5005)

2. Switching Controller (IC501)

This is the basic circuit which is necessary for controlling the power supply for a PWM-type switching regulator, and is provided with seven built-in channels, only CH1 (motor system), CH2 (digital 3.25 V), CH3 (digital 1.2 V) and CH7 (backlight) are used.
Each power supply output is received, and the PWM duty is varied so that each one is maintained at the correct voltage setting level.
Feedback for the backlight power (CH7) is provided to the both ends voltage of registance so that regular current can be controlled to be current that was setting.

2-1. Short-circuit protection circuit

If output is short-circuited for the length of time determined by the condenser which is connected to Pin (A6) of IC501, all output is turned off. To reset, momentarily set the control signal (P ON) to repeat control, or temporarily disconnect the input power supply.

3. Motor System Power Output

BOOST 5 V is output. Feedback for the 5.0 V output is provided to the switching controller (Pin (B7) of IC501) so that PWM control can be carried out.

4. Digital 3.25 V Power Output

VDD3 is output. Feedback for the VDD3 is provided to the swiching controller (Pin (F3) of IC501) so that PWM control can be carried out.

5. Digital 1.2 V Power Output

VDD 1.2 is output. Feedback for the 1.2 V is provided to the switching controller (Pin (C3) of IC501) so that PWM control to be carried out.

6. Backlight Power Supply output

Regular current is being transmitted to LED for LCD backlight. Feedback for the both ends voltage of registance that is being positioned to in series LED are provided to the switching controller (Pin (C4) of IC501) so that PWM control to be carried out.

7. Digital and CMOS 1.8 V Power Output

VDD 1.8 is output. Feedback for the VDD 1.8 is provided to the switching controller (Pin (3) of IC504) so that PWM control to be carried out.

8. CMOS Analog 2.8 V Power Output

VAA 2.8 is output. Feedback for the VAA 2.8 is provided to the switching controller (Pin (3) of IC503) so that PWM control to be carried out.

1-4. ST1 STROBE CIRCUIT DESCRIPTION

1. Charging Circuit

When UNREG power is supplied to the charge circuit and the CHG signal from microprocessor becomes High (3.3 V), the charging circuit starts operating and the main electorolytic capacitor is charged with high-voltage direct current.
However, when the CHG signal is Low (0 V), the charging circuit does not operate.

1-1. Charge switch

When the CHG signal switches to Hi, IC541 starts charging operation.

1-2. Power supply filter

C5401 constitutes the power supply filter. They smooth out ripples in the current which accompany the switching of the oscillation transformer.

1-3. Oscillation circuit

This circuit generates an AC voltage (pulse) in order to increase the UNREG power supply voltage when drops in current occur. This circuit generates a drive pulse with a frequency of approximately 200-300 kHz, and drive the oscillation transformer.

1-4. Oscillation transformer

The low-voltage alternating current which is generated by the oscillation control circuit is converted to a high-voltage alternating current by the oscillation transformer.

1-5. Rectifier circuit

The high-voltage alternating current which is generated at the secondary side of T5401 is rectified to produce a high-voltage direct current and is accumulated at electrolytic capacitor C5412.

1-6. Charge monitoring circuit

The functions programmed in the IC541 monitor oscillations and estimate the charging voltage. If the voltage exceeds the rated value, charging automatically stops. Then, the ZCHG_DONE signal is changed to Lo output and a "charging stopped" signal is sent to the microcomputer.

2. Light Emission Circuit

When FLCTL signal is input from the ASIC, the stroboscope emits light.

2-1. Emission control circuit

When the FLCLT signal is input to the emission control circuit, Q5402 switches on and preparation is made to the light emitting. Moreover, when a FLCLT signal becomes Lo, the stroboscope stops emitting light.

2-2. Trigger circuit

The Q5402 is turned ON by the FLCLT signal and light emission preparation is preformed. Simultaneously, high voltage pulses of several kV are emitted from the trigger coil and applied to the light emitter.

2-3. Light emitting element

When the high-voltage pulse form the trigger circuit is applied to the light emitting part, currnet flows to the light emitting element and light is emitted.

Beware of electric shocks.

1-5. SYA CIRCUIT DESCRIPTION

1. Configuration and Functions

For the overall configuration of the SYA block, refer to the block diagram. The SYA block centers around a 8-bit microprocessor (IC301), and controls camera system condition (mode).
The 8-bit microprocessor handles the following functions.
1. Operation key input, 2. Clock control and backup, 3. Power ON/OFF, 4. Storobe charge control

Pin	Signal	I/O	Outline
1	ASIC_SCK	O	Serial clock output (CL required)
2	ZCARD	I	Card detection (SW3.2 V required)
3	ZBACKUPCTL	O	Backup battery charge control
4	CHG_CNT	O	Camera charge permission
5	HOT LINE	I	Hot line request from ASIC
6	GREEN_LED	O	Switch unit LED (green) (H= lighting)
7	RED_LED	O	Switch unit LED (red) (H= lighting)/ combine with UTX (CL required)
8	ST_CHG_ON	O	Strobo charge control (H= charge)
9	VDD2	-	-
10	VSS2	-	-
11~14	SCAN IN4~1	I	Keyscan input 4~1
15	ZUSB_DET	I	USB power detection terminal (L= detection)
16	HDMI_HPD	I	HDMI hot plug detection
17	ZCHG_DONE	I	Main condensor charge voltage detection
18	TIMEOUT	I	Charge done detection
19	BAT_UTX	O	Battery power detection IC UART sending
20	BAT_URX	I	Battery power detection IC UART recieving
21	SCAN_IN0	I	Keyscan input 0
22	PANEL_OPEN	I	Panel open detection (MR sensor)
23	KEY 2nd	I	S2 key input
24	USB_ON	O	USB charge ON/OFF
25	NOT USED	I	(HDMI_INT delete)
26	NOT USED	O	(TGVD delete)
27	MRST	O	System reset (MRST)
28	SW3.2ON	O	SW 3.2 V power (L= 3.2 V)
29	PON2	O	Digital system power start-up signal
30	NOT USED	I	(I2CSDATA delete)
31	P ON	O	Digital system power start-up signal
32	NAND_RESET	O	OneNAND reset
33	PLLEN	O	PLL enable signal
34	ERR	I	Charge error detection
35	VSS3	-	-
36	VDD3	-	-
37	RDSEL	I	Debugger select terminal
38	CLK (SFW)	I	Debug CN
39	DATA0 (SFW)	I	Debug CN
40	DC_IN	I	DC jack insertion detection (SW3.2 V required)
41	HINGE	I	Panel rotation detection
42~44	SCAN OUT2~0	O	Keyscan output 2~0
45	ZOOM_SW_AD	I	Zoom key AD input
46	NOT USED	-	-
47	ZAV_JACK	I	Cable detection

See next page →

48	BAT_TMP	I	Battery temperature detection
49	BAT_OFF	I	Battery OFF detection signal input
50	ZSREQ	I	Serial communication request signal (CL required)
51	KEY_1st	I	S1 key input
52	ZBOOT_COMREQ	I/O	ZBOOT output
53	ZRESET	I	SBM reset input
54	XCIN	I	32 k oscillation input
55	XCOUT	O	32 k oscillation output
56	VSS1	-	-
57	XIN	I	4M oscillation input
58	XOUT	O	4M oscillation output
59	VDD1	-	-
60	BATTERY	I	UNREG voltage detection
61	NOT USED	-	-
62	INT_TEMP	I	Camera temperature detection
63	ASIC_SDI	O	Serial data output (CL required)
64	ASIC_SDO	I	Serial data input (CL required)

Table 5-1. 8-bit Microprocessor Port Specification

2. Internal Communication Bus

The SYA block carries out overall control of camera operation by detecting the input from the keyboard and the condition of the camera circuits. The 8-bit microprocessor reads the signals from each sensor element as input data and outputs this data to the camera circuits (ASIC) or to the LCD display device as operation mode setting data. Fig. 5-1 shows the internal communication between the 8-bit microprocessor, ASIC and SPARC lite circuits.

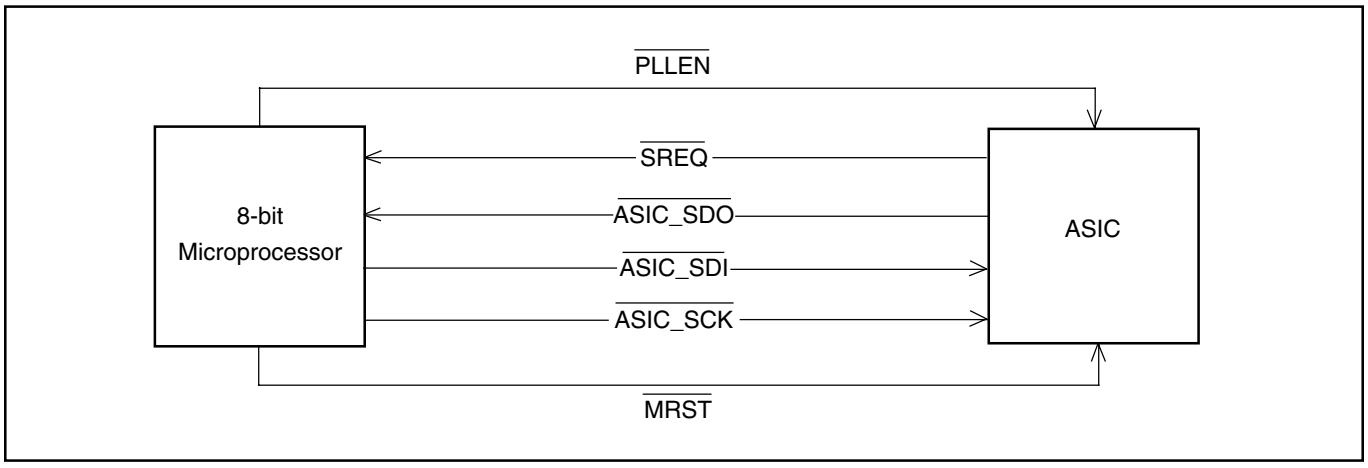


Fig. 5-1 Internal Bus Communication System

3. Key Operaiton

For details of the key operation, refer to the instruction manual.

SCAN IN / SCAN OUT	0	1	2	3	4
0	UP	DOWN	LEFT	RIGHT	SET
1	-	VREC	PLAY	MENU	POWER
2	PW_TEST	-	TEST	-	-

Table 5-2. Key Operation

4. Power Supply Control

The 8-bit microprocessor controls the power supply for the overall system.

The following is a description of how the power supply is turned on and off. When the battery is attached or DC IN input, a regulated 3.2 V (power off: 2.4 V) voltage is normally input to the 8-bit microprocessor (IC301) by IC302, so that clock counting and key scanning is carried out even when the power switch is turned off, so that the camera can start up again. When the battery is removed and DC IN does not input, the 8-bit microprocessor operates in sleep mode using the backup battery. At this time, the 8-bit microprocessor only carries out clock counting, and waits in standby for the battery to be attached again or DC IN input. When a switch is operated, the 8-bit microprocessor supplies power to the system as required.

The 8-bit microprocessor first set the P ON signal at pin (31) and the P ON2 signal at pin (29) to high, and then turns on the DC/DC converter. After this, low signal is output from pin (27) so that the ASIC is set to the reset condition. After this these pins set to high, and set to active condition. Once it is completed, the ASIC returns to the reset condition, all DC/DC converters are turned off and the power supply to the whole system is halted.

		ASIC, memory	CMOS	8 bit CPU
Power voltage		3.3 V 1.0 V 1.8 V	2.8 V (A) 2.8 V (D), 1.8 V (D)	3.2 V
Power OFF		OFF	OFF	32KHz
CAMERA	Power switch ON - Auto power OFF	OFF	OFF	32KHz
	LCD finder	ON	ON	4 MHz
Play back		ON	OFF	4 MHz

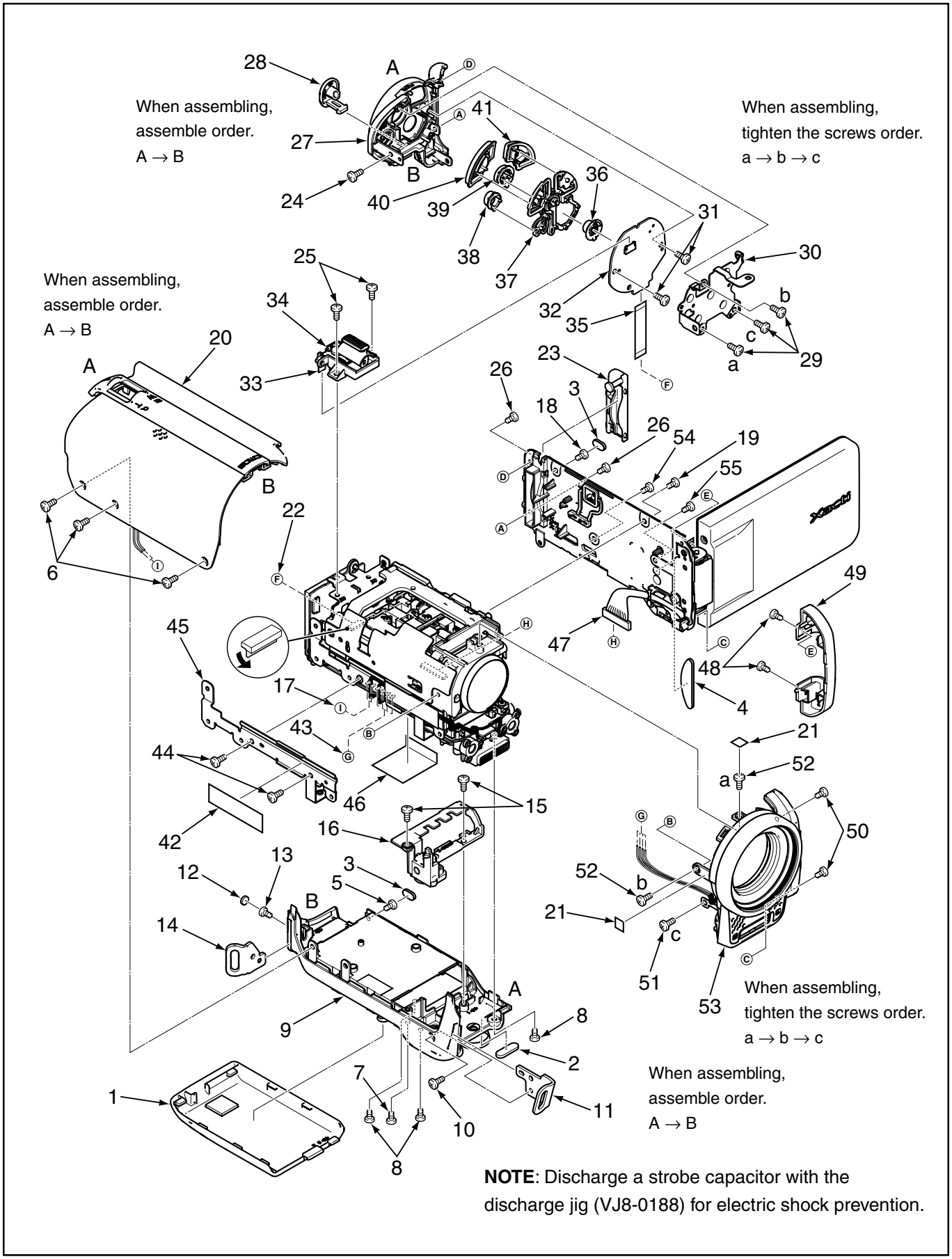
Table 5-3. Camera Mode

Note) 4 MHz = Main clock operation, 32 kHz = Sub clock operation

MEMO

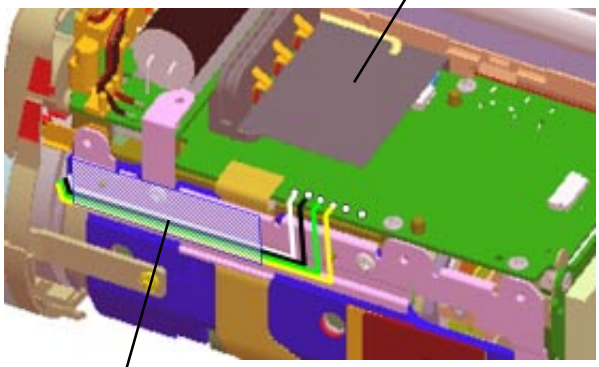
2. DISASSEMBLY

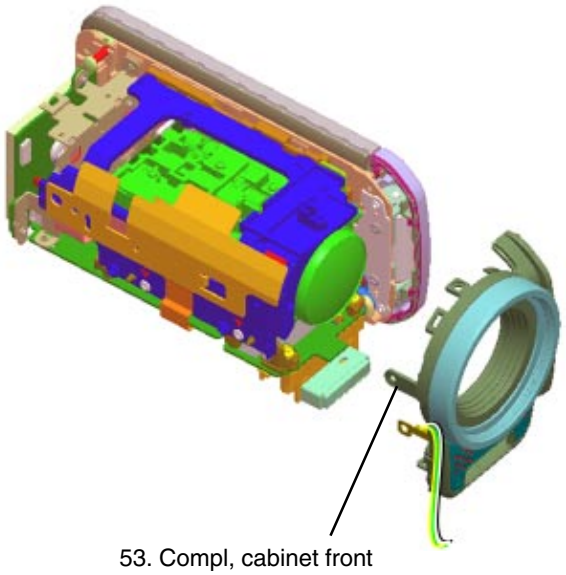
2-1. REMOVAL OF CABINET BOTTOM, CABINET TOP, CABINET BACK, TB4 BOARD AND CABINET FRONT

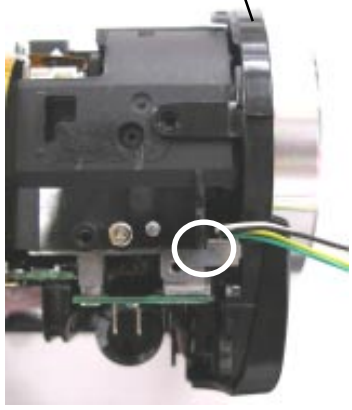


NOTE: Discharge a strobe capacitor with the discharge jig (VJ8-0188) for electric shock prevention.

1. Cover battery
2. Spacer bottom
3. Spacer LCD
4. Spacer LCD front
5. Screw 1.7 x 7
6. Three screws 1.7 x 3
7. Screw 1.7 x 3
8. Three screws 1.7 x 4
9. Remove the cabi bottom from the main body.
10. Screw 1.7 x 3
11. Holder strap front
12. Spacer blind
13. Screw 1.7 x 3
14. Holder strap back
15. Two screws 1.7 x 4
16. Stand
17. Remove the solder.
18. Screw 1.7 x 3
19. Screw 1.7 x 3
20. Cabinet top
21. Spacer cabi front
22. Flexible pwb CP1 & TB4
23. Cover SD
24. Screw 1.7 x 3
25. Two screws 1.7 x 3
26. Two screws 1.7 x 3
27. Remove the cabinet back from the main body.
28. Cover DC
29. Three screws 1.7 x 4
30. Holder back
31. Two screws 1.7 x 4
32. TB4 board
33. FPC
34. Unit, zoom
35. Flexible pwb CP1 & TB4
36. Button select
37. Holder button bas
38. Button menu
39. Button rec play
40. Button movie
41. Button shutter
42. Spacer mic
43. Remove the solder.
44. Two screws 1.7 x 4
45. Holder bottom
46. Spacer shield wire
47. Connector
48. Two screws 1.7 x 2
49. Dec joint
50. Two screws 1.7 x 4
51. Screw 1.7 x 3
52. Two screws 1.7 x 3
53. Compl, cabinet front
54. Screw 1.7 x 3
55. Screw 1.7 x 3

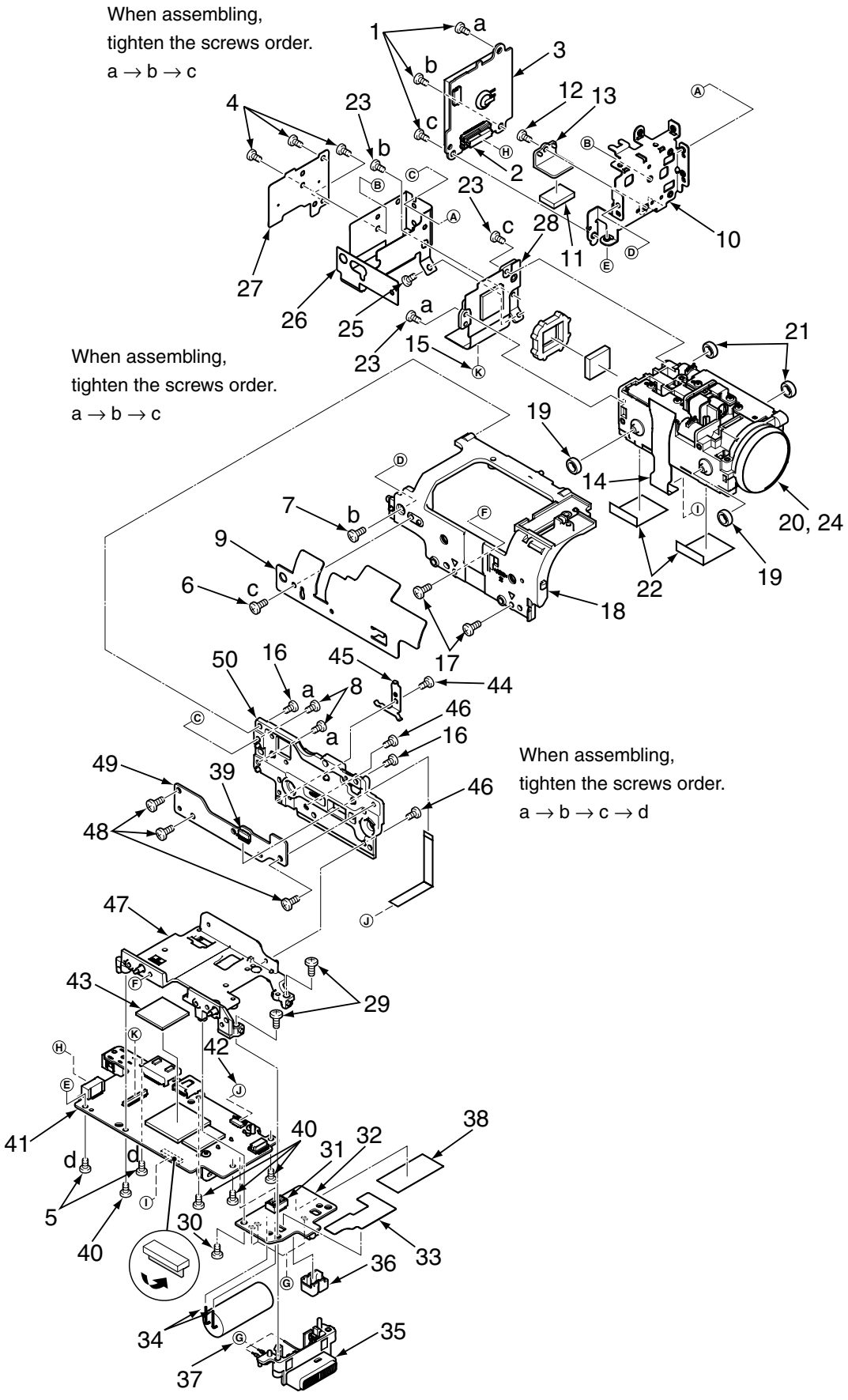




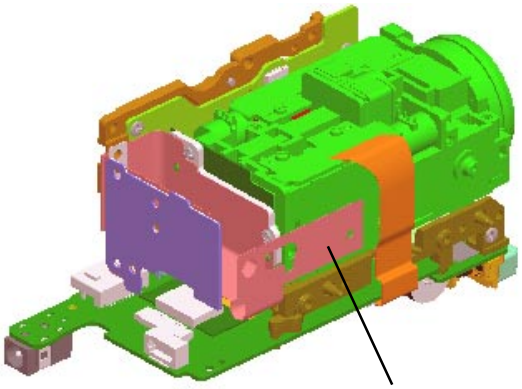


Note:
Do not tuck the lead wires.

2-2. REMOVAL OF TB1 BOARD, LENS, ST1 BOARD, CP1 BOARD AND TB3 BOARD

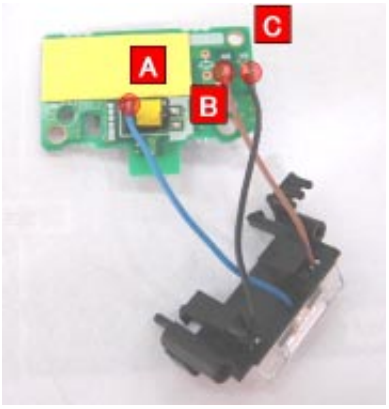


1. Three screws 1.7 x 3
2. Connector
3. TB1 board
4. Three screws 1.7 x 2.5
5. Two screws 1.7 x 3
6. Screw 1.7 x 4
7. Screw 1.7 x 3
8. Two screws 1.7 x 3
9. Heat sink CMOS
10. Holder TB1
11. Spacer CA
12. Screw 1.7 x 2.5
13. Holder CA
14. FPC
15. Connector
16. Two screws 1.7 x 4
17. Two screws 1.7 x 4
18. Holder lens chassis
19. Holder lens
20. Remove the lens part.
21. Holder lens
22. Spacer lens bottom
23. Three screws 1.4 x 3.5
24. Lens
25. Screw 1.7 x 2
26. Heat sink tape CMOS
27. Holder heat CMOS TB1
28. Assy, flexible pwb CA1 + mounting lens
29. Two screws 1.7 x 7
30. Screw 1.7 x 3
31. Connector
32. ST1 board
33. Spacer ST1
34. Remove the solder.
35. Assy, lamp
36. Cover triger
37. Remove the solder.
38. Spacer con ST1
39. Flexible pwb CP1 & TB3
40. Four screws 1.7 x 3
41. CP1 board
42. Flexible pwb CP1 & TB3
43. Heat sink rub ASIC
44. Screw 1.4 x 2
45. Earth jack
46. Two screws 1.7 x 3
47. Chassis bottom
48. Three screws 1.7 x 2.5
49. TB3 board
50. Chassis right

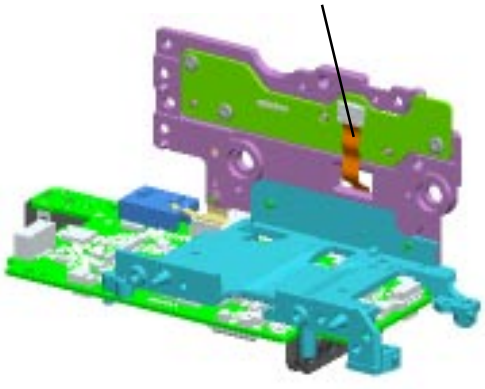


35. Assy lamp dressing method

35. Assy lamp soldering order

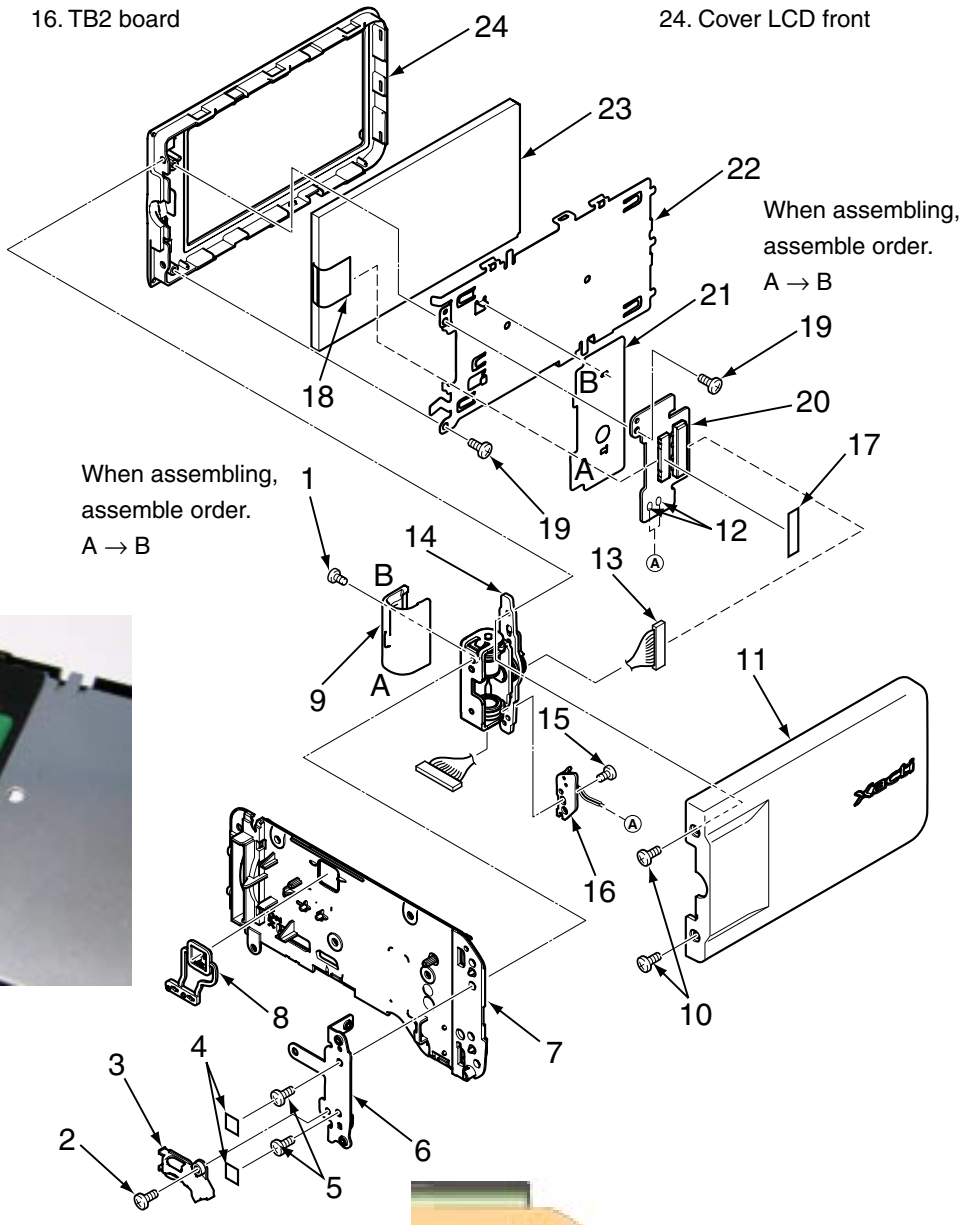


39, 42. Flexible pwb CP1 & TB3

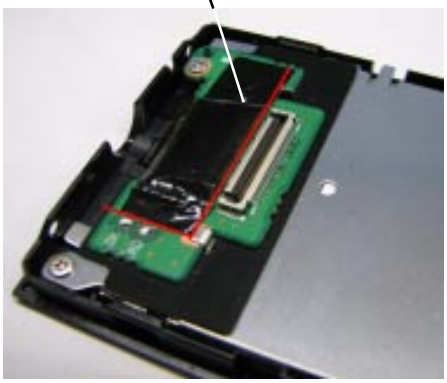


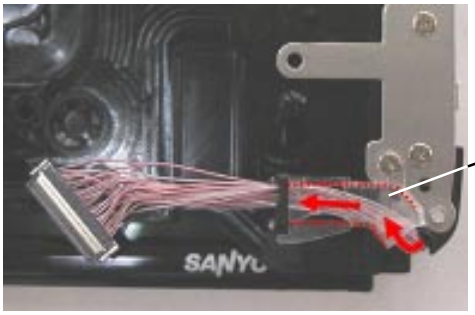
2-3. REMOVAL OF TB2 BOARD, VF1 BOARD AND LCD

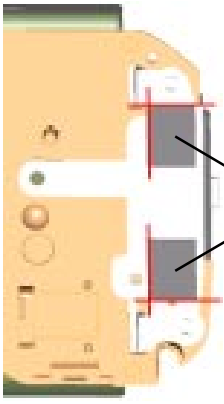
1. Screw 1.7 x 2
2. Screw 1.7 x 3
3. Holder wire
4. Spacer holder joint
5. Two screws 1.7 x 3
6. Holder joint
7. Cabinet right
8. Button power
9. Cover joint
10. Two screws 1.7 x 3
11. Cover LCD back
12. Remove the solder.
13. Connector
14. Assy, joint
15. Screw 1.7 x 2
16. TB2 board
17. Spacer LCD FPC
18. FPC
19. Two screws 1.7 x 3
20. VF1 board
21. Spacer pwb
22. Holder LCD
23. LCD
24. Cover LCD front



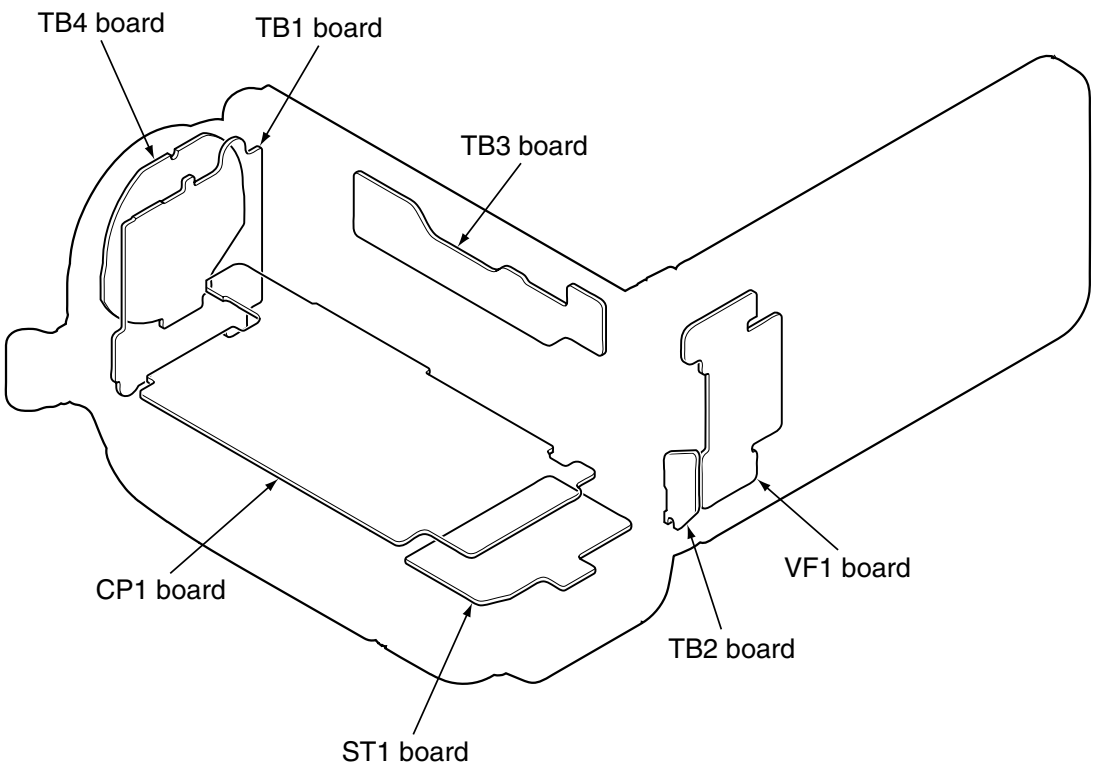
17. Spacer LCD FPC







2-4. BOARD LOCATION



3. ELECTRICAL ADJUSTMENT

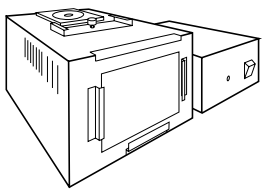
3-1. Table for Servicing Tools

Ref. No.	Name	Number	Part code
J-1	Pattern box	1	VJ8-0190
J-2	Calibration software	1	
J-3	Chroma meter	1	VJ8-0192
J-4	Spare lump (pattern box)	1	VJ8-0191
J-5	Discharge jig	1	VJ8-0188
J-6	Collimator	1	VJ8-0260
J-7	Spare lump (collimator)	1	VJ8-0282
J-8	Siemens star chart	1	
J-9	Fluorescent tube viewer	1	

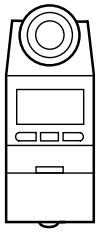
J-9: Fluorescent tube viewer: HAKUBA light viewer 5700

Download the calibration software and the firmware from the following URL.
http://www.digital-sanyo.com/overseas/service/
Place the DscCalDi.exe file, camapi32.dll file and QrCodeInfo.dll file together into a folder of your choice.

J-1

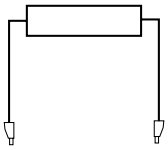


J-3

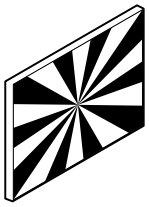


J-4

J-5



J-8



3-2. Equipment

1. AC adaptor
2. PC (IBMⓇ-compatible PC, Windows 2000 or XP or Vista)

3-3. Adjustment Items and Order

1. Optical Axis Adjustment
2. Lens Adjustment (Infinity)
3. Lens Adjustment (1m)
4. AWB Adjustment
5. CMOS White Point Defect Detect Adjustment
6. CMOS Black Point And White Point Defect Detect Adjustment In Lighted

Note: If the lens, board and changing the part, it is necessary to adjust again. Item 1-6 adjustments should be carried out in sequence.

***Adjustment environment**

Temperature: 25 ± 10 degrees, Humidity: 55 ± 25 %

3-4. Setup

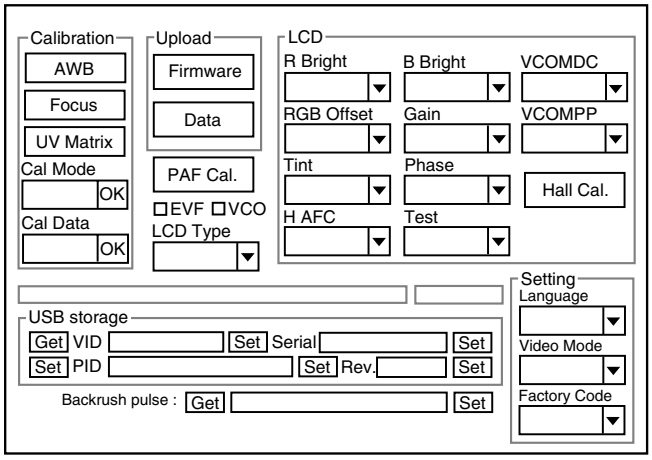
1. System requirements

Windows 2000 or XP or Vista
IBMⓇ-compatible PC with pentium processor
USB port
40 MB RAM
Hard disk drive with at least 15 MB available
VGA or SVGA monitor with at least 256-color display

2. Pattern box

Turn on the switch and wait for 30 minutes for aging to take place before using Color Pure. It is used after adjusting the chroma meter (VJ8-0192) adjust color temperature to 3100 ± 20 K and luminosity to 900 ± 20 cd/m^2. Be careful of handling the lump and its circumference are high temperature during use and after power off for a while.

3. Computer screen during adjustment



3-5. Connecting the camera to the computer

1. Use the supplied dedicated USB interface cable to connect the camera to the computer.
2. Turn on the camera.
3. Choose the “COMPUTER”, and press the SET button. Next, choose the “CARD READER”, and press the SET button.

3-6. The adjustment item which in necessary in part exchange

	Optical Axis Adjust-ment	Lens Adjust-ment (Infinity)	Lens Adjust-ment (1 m)	AWB Adjust-ment	CMOS White Point Defect Detect Adjustment	CMOS Black Point And White Point Defect Detect Adjustment In Lighted	Factory Cord Setting	Language Setting	USB storage information registration	Reset Setting
COMPL PWB CP1	○	○	○	○	○	○	○	△	○	○
COMPL PWB VF1										
COMPL PWB ST1										
COMPL PWB TB1										
COMPL PWB TB2										
COMPL PWB TB3										
COMPL PWB TB4										
ASSY, FLEXIBLE PWB CA1	○	○	○	○	○	○				

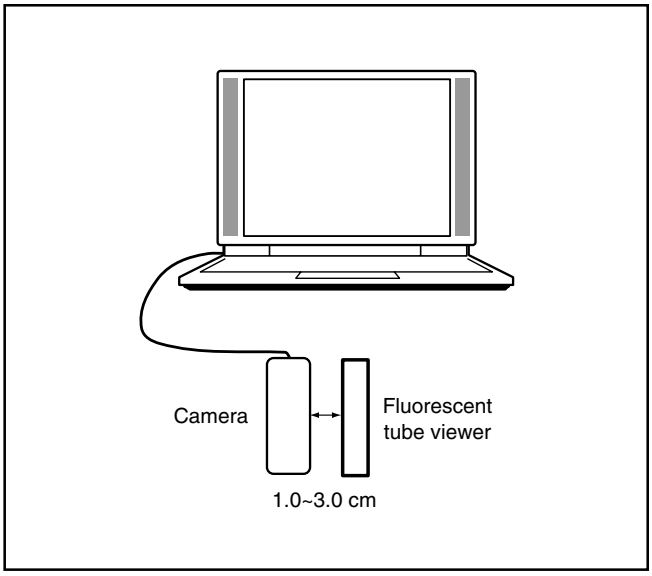
○ : Be sure to carry out the necessary adjustments after replacing the unit.
△ : Adjustment is possible from the menu setting screen of the camera and by using the calibration software.

3-7. Updating the firmware

Check the firmware version immediately after the CP1 board has been replaced. If an old version is being used, interference and errors in operation may also occur. If an old version is being used, update it with a newer version.
Refer to 3-13. Firmware uploading procedure. (Page 23)

3-8. Adjust Specifications

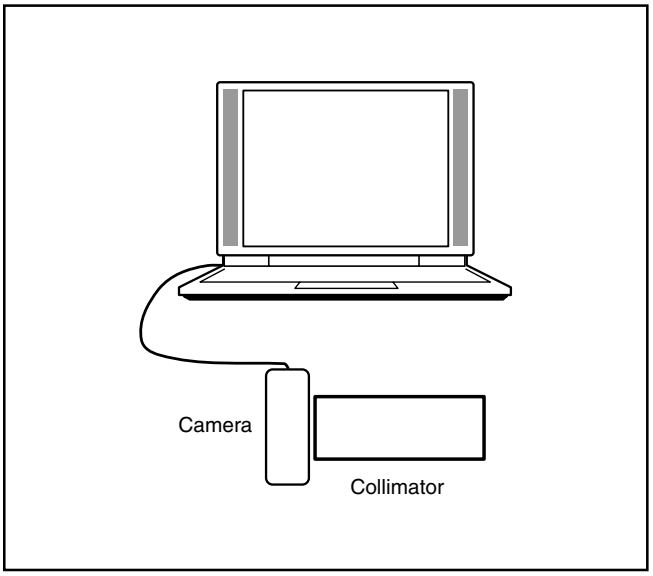
1. Optical Axis Adjustment



Preparation:
POWER switch: ON
Note:
Do not vibrate during the adjustment.

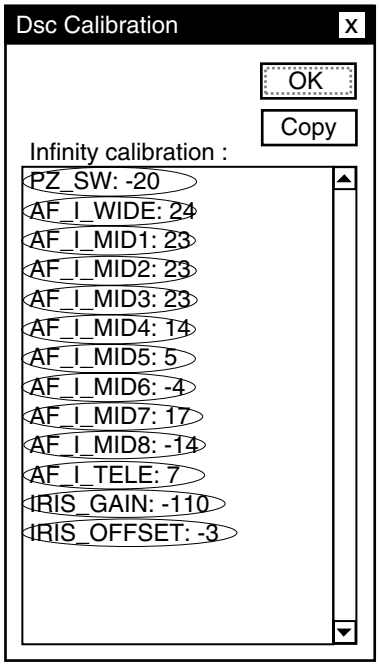
Adjustment method:
1. Set a distance of 1.0-3.0 cm between the camera lens and the white part of fluorescent tube viewer.
   (Do not enter any light.)
2. Double-click on the DscCalDi.exe.
3. Input “251” to the “CalMode”, and click the OK.
4. Adjustment value will appear on the screen.
5. Click the OK.

2. Lens Adjustment (Infinity)



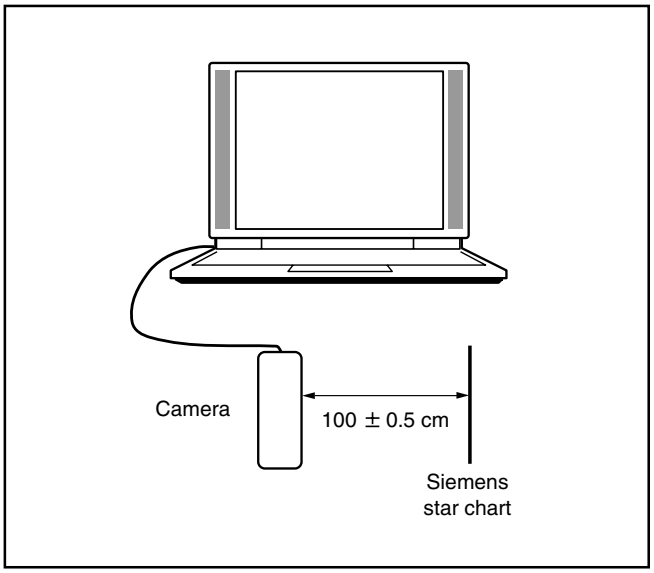
Preparation:
POWER switch: ON
If using a ready-made collimator, set to infinity.
Note:
Do not vibrate during the adjustment.
If readjusting after it has already been adjusted, wait for 15 minutes or more for the unit to cool down first.
Adjustment method:
1. Set the camera so that it becomes center of the siemens star chart in the collimator (zoom wide and tele).
   (Set a distance of 0.5-1.0 cm between camera lens and collimator lens. Do not touch the each lens.)
2. Set the camera so that it becomes center of the screen in the collimator.
3. Double-click on the DscCalDi.exe.
4. Select “Infinity Cal.” on the LCD “Test”, and click the “Yes”.
5. Lens infinity adjustment value will appear on the screen.
6. Click the OK.

3. Lens Adjustment (1m) is carried out after this adjustment.



Adjustment value determination is effectuated using below values.
The adjustment values fulfill the conditions below, they are determined as within specifications.
Adjustment value determination
PZ_SW: ZSW
  ZSW: adjustment value of zoom PI switch position (-52<=ZSW<=34)
AF_I_WIDE: ZIW
  ZIW: infinity adjustment value of focus at zoom position wide (–77<=ZIW<=78)
AF_I_MID1: ZIM1
  ZIM1: infinity adjustment value of focus at zoom position middle1 (–96<=ZIM1<=96)
AF_I_MID2: ZIM2
  ZIM2: infinity adjustment value of focus at zoom position middle2 (–115<=ZIM2<=114)
AF_I_MID3: ZIM3
  ZIM3: infinity adjustment value of focus at zoom position middle3 (–138<=ZIM3<=137)
AF_I_MID4: ZIM4
  ZIM4: infinity adjustment value of focus at zoom position middle4 (–194<=ZIM4<=195)
AF_I_MID5: ZIM5
  ZIM5: infinity adjustment value of focus at zoom position middle5 (–237<=ZIM5<=238)
AF_I_MID6: ZIM6
  ZIM6: infinity adjustment value of focus at zoom position middle6 (–288<=ZIM6<=287)
AF_I_MID7: ZIM7
  ZIM7: infinity adjustment value of focus at zoom position middle7 (–348<=ZIM7<=348)
AF_I_MID8: ZIM8
  ZIM8: infinity adjustment value of focus at zoom position middle8 (–471<=ZIM8<=470)
AF_I_TELE: ZIT
  ZIT: infinity adjustment value of focus at zoom position tele (–200<=ZIT<=598)
IRIS_GAIN: g
  g: adjustment value of gain (-128<=g<=127)
IRIS_OFFSET: o
  o: adjustment value of offset (-128<=o<=127)

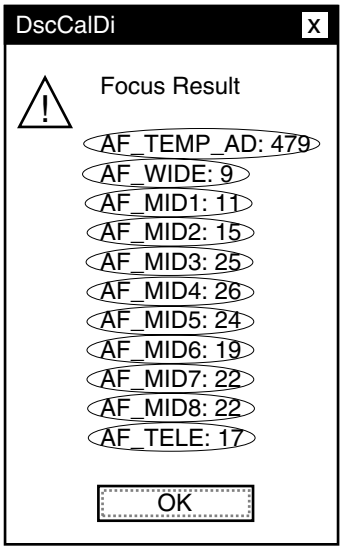
3. Lens Adjustment (1m)



Preparation:
POWER switch: ON
Adjustment condition:
Siemens star chart (A3)
Fluorescent light illumination with no flicker
Illumination above the subject should be 700 lux ± 10%.
Note:
Do not vibrate during the adjustment.
If readjusting after it has already been adjusted, wait for 15 minutes or more for the unit to cool down first.

Adjustment method:

1. Set the siemens star chart 100 ± 0.5 cm from lens surface so that it becomes center of the screen (zoom wide and tele). Set the camera and the chart in a straight, and do not put optical systems (mirror and conversion lens etc.)
2. Double-click on the DscCalDi.exe.
3. Click the “Focus”, and Click the “Yes”.
4. Lens adjustment value will appear on the screen.
5. Click the OK.



Adjustment value determination is effectuated using below values.

The adjustment values fulfill the conditions below, they are determined as within specifications.

Adjustment value determination

AF_TEMP_AD: ATAD

ATAD: adjustment value of focus temperature A/D (264<ATAD<837)

AF_WIDE: ZW

ZW: adjustment value of focus at zoom position wide (–77<=ZW<=78)

AF_MID1: ZM1

ZM1: adjustment value of focus at zoom position middle1 (–96<=ZM1<=96)

AF_MID2: ZM2

ZM2: adjustment value of focus at zoom position middle2 (–118<=ZM2<=117)

AF_MID3: ZM3

ZM3: adjustment value of focus at zoom position middle3 (–147<=ZM3<=97)

AF_MID4: ZM4

ZM4: adjustment value of focus at zoom position middle4 (–199<=ZM4<=148)

AF_MID5: ZM5

ZM5: adjustment value of focus at zoom position middle5 (–234<=ZM5<=213)

AF_MID6: ZM6

ZM6: adjustment value of focus at zoom position middle6 (–240<=ZM6<=241)

AF_MID7: ZM7

ZM7: adjustment value of focus at zoom position middle7 (–259<=ZM7<=230)

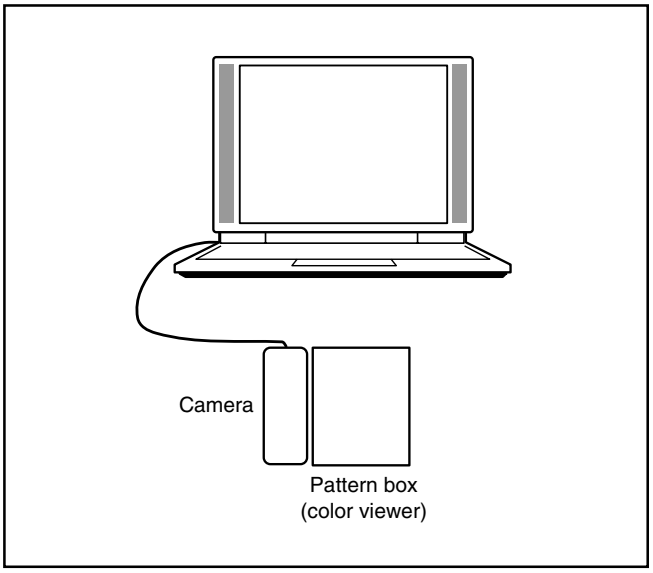
AF_MID8: ZM8

ZM8: adjustment value of focus at zoom position middle8 (–286<=ZM8<=286)

AF_TELE: ZT

ZT: adjustment value of focus at zoom position tele (–306<=ZT<=306)

4. AWB Adjustment



Preparation:

POWER switch: ON

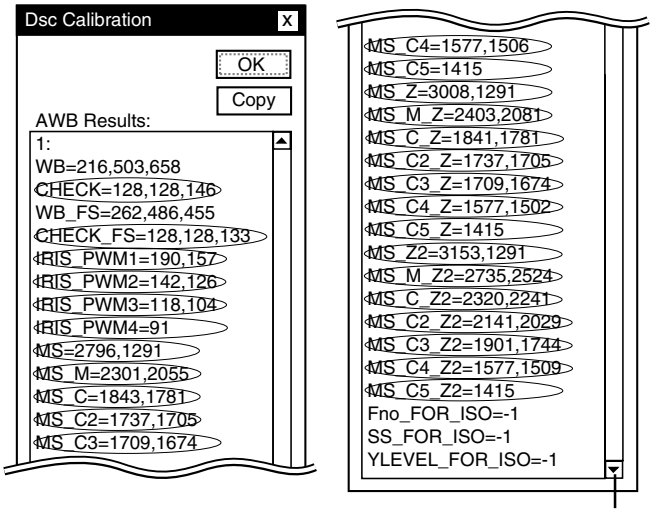
Setting of pattern box:

Color temperature: 3100 ± 20 (K)

Luminance: 900 ± 20 (cd/m^2)

Adjusting method:

1. Set a distance of 0.5-1.0 cm between the pattern box and the camera. (Do not enter any light.)
2. Double-click on the DscCalDi.exe.
3. Click the AWB, and click the Yes.
4. AWB adjustment value will appear on the screen.
5. Click the OK.



When all of the AWB adjustment screen is not displayed, use a scroll bar.

Adjustment value determination is effectuated using the “CHECK", “CHECK_FS”, "MS", “MS_M”, “MS_C”, “MS_C2”, “MS_C3”, “MS_C4”, “MS_C5”, “MS_Z”, “MS_M_Z”, “MS_C_Z”, “MS_C2_Z”, “MS_C3_Z”, “MS_C4_Z”, “MS_C5_Z”, “MS_Z2”, “MS_M_Z2”, “MS_C_Z2”, “MS_C2_Z2”, “MS_C3_Z2”, “MS_C4_Z2”, “MS_C5_Z2”, “IRIS_PWM1”, “IRIS_PWM2”, “IRIS_PWM3” and “IRIS_PWM4” values. If

CHECK = wc0, wc1, wc2
CHECK_FS = wnc0, wnc1, wnc2
MS = ms1, ms2
MS_M = ms3, ms4
MS_C = ms5, ms6
MS_C2 = ms7, ms8
MS_C3 = ms9, ms10
MS_C4 = ms11, ms12
MS_C5 = ms13
MS_Z = ms14, ms15
MS_M_Z = ms16, ms17
MS_C_Z = ms18, ms19
MS_C2_Z = ms20, ms21
MS_C3_Z = ms22, ms23
MS_C4_Z = ms24, ms25
MS_C5_Z = ms26
MS_Z2 = ms27, ms28
MS_M_Z2 = ms29, ms30
MS_C_Z2 = ms31, ms32
MS_C2_Z2 = ms33, ms34
MS_C3_Z2 = ms35, ms36
MS_C4_Z2 = ms37, ms38
MS_C5_Z2 = ms39
IRIS_PWM1 = s1, s2
IRIS_PWM2 = s3, s4
IRIS_PWM3 = s5, s6
IRIS_PWM4 = s7

the adjustment values fulfill the conditions below, they are determined as within specifications.

Adjustment value determination

wc0=128 ± 2, wc1=128 ± 2, wc2<=255
wnc0=128 ± 2, wnc1=128 ± 2, wnc2<=255
2090<=ms1<=3500, 990<=ms2<=1620,
1860<=ms3<=2730, 1680<=ms4<=2440,
1510<=ms5<=2210, 1430<=ms6<=2150,
1380<=ms7<=2100, 1370<=ms8<=2080,
1370<=ms9<=2080, 1350<=ms10<=2060,
1230<=ms11<=1940, 1150<=ms12<=1870,
1040<=ms13<=1760, 2400<=ms14<=3800,
990<=ms15<=1620, 1990<=ms16<=3000,
1730<=ms17<=2500, 1510<=ms18<=2210,
1430<=ms19<=2150, 1380<=ms20<=2100,
1370<=ms21<=2080, 1370<=ms22<=2080,
1350<=ms23<=2060, 1230<=ms24<=1940,
1150<=ms25<=1870, 1040<=ms26<=1760,
2400<=ms27<=3910, 990<=ms28<=1620,
2120<=ms29<=3320, 1970<=ms30<=3030,
1860<=ms31<=2780, 1820<=ms32<=2650,
1730<=ms33<=2560, 1640<=ms34<=2480,
1520<=ms35<=2360, 1360<=ms36<=2200,
1230<=ms37<=1940, 1150<=ms38<=1870,
1040<=ms39<=1760
s1>s2>s3>s4>s5>s6>s7

Adjustment values other than the above are irrelevant.

5. CMOS White Point Defect Detect Adjustment

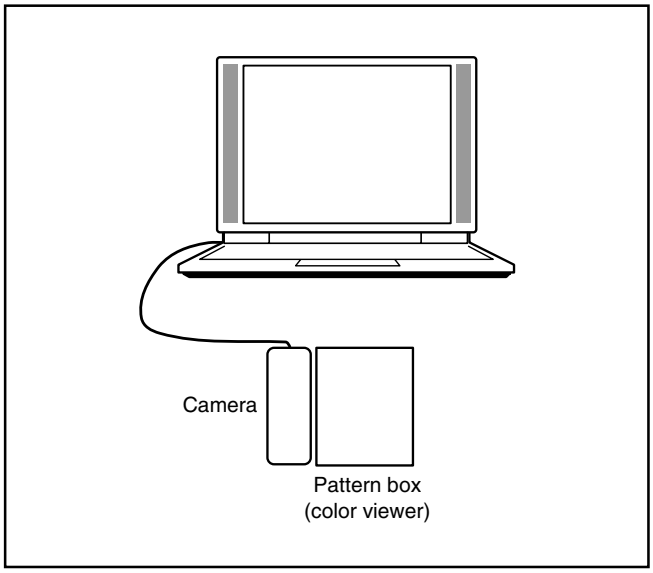
Preparation:

POWER switch: ON

Adjustment method:

1. Double-click on the DscCalDi.exe.
2. Select “CCD Defect” on the LCD “Test”, and click the “Yes”.
3. After the adjustment is completed, OK will display.
4. Click the OK.

6. CMOS Black Point And White Point Defect Detect Adjustment In Lighted



Preparation:

POWER switch: ON

Setting of pattern box:

Color temperature: 3100 ± 20 (K)

Luminance: 900 ± 20 (cd/m^2)

Adjusting method:

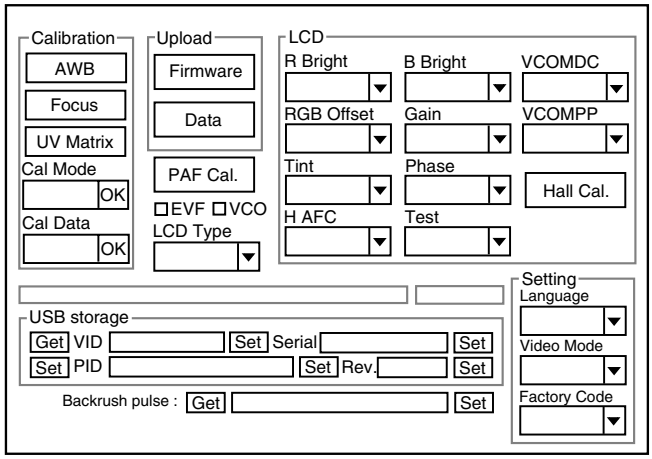
1. Set a distance of 0.5-1.0 cm between the pattern box and the camera.
2. Double-click on the DscCalDi.exe.
3. Select “CCD Black” on the LCD “Test”, and click the “Yes”.
4. After the adjustment is completed, the number of defect will appear.
5. Click the OK.

3-9. Factory Code Setting

1. Check the "Factory Code" display within the Setting group.
2. **For U.S.A., Canada and NTSC general area**
   If "FC_SANYO_U" does not appear, click on the "▼" mark located on the right of the "Factory Code" display BOX and select "FC_SANYO_U".
3. **For Europe and PAL general area**
   If "FC_SANYO_EX" does not appear, click on the "▼" mark located on the right of the "Factory Code" display BOX and select "FC_SANYO_EX".

3-10. Language Setting

1. Click on the "▼" mark located on the right of the "Language" display BOX.
2. Select language. (Default is English.)
3. End "DscCal" and remove the camera before turning the camera power OFF.



3-11. Reset Setting

Carry out reset settings after replacing CP1 board.

1. Turn on the camera.
2. Set the NORMAL mode, and press the MENU button.
3. Choose the OPTION MENU 3.
4. Choose the RESET SETTINGS, and press the SET button.
5. Select RESET, and press the SET button.

3-12. The Compulsive boot starting method

1. Keep MENU button, SET button, and SHUTTER button depressed while switching on the power.
2. Connect the camera and the computer with USB cable.

3-13. Firmware uploading procedure

1. Uploading the firmware should be carried out if the version number (COMPL PWB XX-X) on the replacement circuit board is lower than the version of the distributed firmware. For XX-X, enter the name of the circuit board containing the firmware.
2. The firmware is distributed by e-mail in self-extracting archive format. Change the extension of the distributed file to .EXE and save it in your preferred folder.
3. When you double-click the saved file, the firmware (binary file) will be saved in the same folder.
4. The firmware must not be distributed without permission.

1. Overwriting firmware from the SD card

Preparation:

SD card: SD card with firmware rewritten into the root directory

Data: S314Nxxx.BIN (xxx: version)

Overwriting method:

1. Insert the above SD card.
2. Turn on the camera.
3. Set the NORMAL mode.
4. Press the MENU button.
5. Choose the OPTION MENU 3.
6. Choose the FORMAT.
7. Toggle the SET button to the left for 2 seconds. FIRMWARE UPDATE will display.
8. Choose YES.
9. Press the SET button. Update is starting.

Note:

Do not turn off the camera's power or remove the SD card while the firmware is being updated.

The power will turn off after the update is complete.

2. Overwriting firmware from the calibration software

Preparation:

PC with overwriting firmware copied to the preferred folder in the HD.

Data: S314Nxxx.BIN (xxx: version)

Overwriting method:

1. Connect the camera's USB/AV terminal to the computer' USB connector.
2. The USB Connection screen appears on the camera's LCD monitor. Choose the "COMPUTER", and press the SET button. Next, choose the "CARD READER", and press the SET button.
3. Double-click on the DscCalDi.exe.
4. Click the Firmware.
5. Choose the fimware file to use for overwriting, and click the Yes.
6. Update is starting. The message will appear, and choose OK.
7. After the update is complete, disconnect the USB cable and turn the camera's power off.

Note:

Do not turn off the camera's power while the firmware is being updated.

4. USB STORAGE INFORMATION REGISTRATION

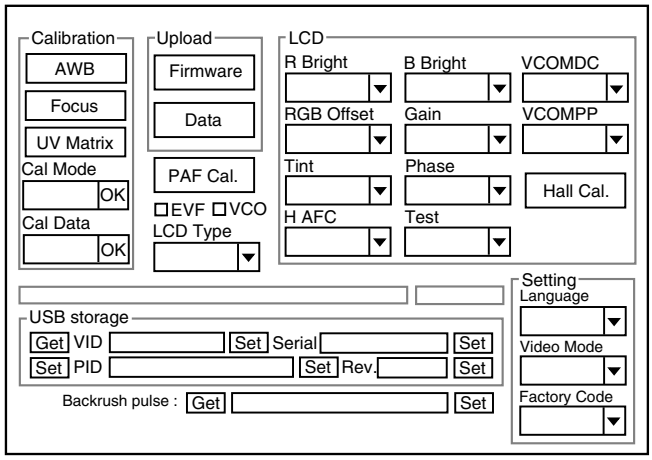
USB storage data is important for when the camera is connected to a computer via a USB connection.
If there are any errors in the USB storage data, or if it has not been saved, the USB specification conditions will not be satisfied, so always check and save the USB storage data.

Preparation:

POWER switch: ON

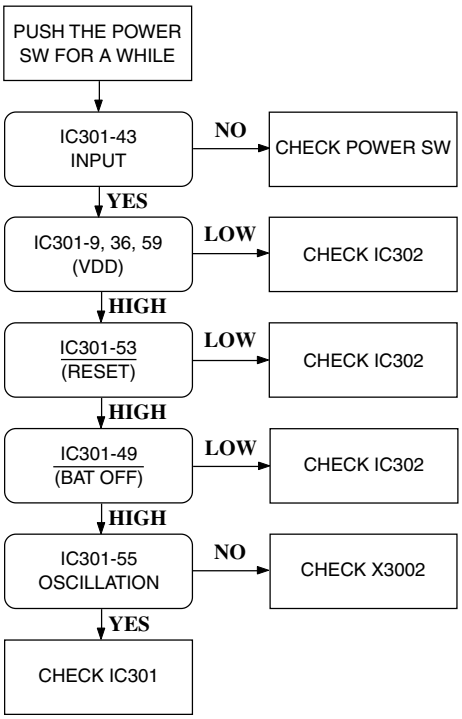
Adjustment method:

1. Connect the camera to a computer. (Refer to 3-5. Connecting the camera to the computer on the page 18.)
2. Double-click on the DscCalDi.exe.
3. Click on the Get button in the USB storage window and check the USB storage data.
   VID: SANYO
   PID: TH1
   Serial:
   Rev. : 1.00
4. Check the “Serial” in the above USB storage data. If the displayed value is different from the serial number printed on the base of the camera, enter the number on the base of the camera. Then click the Set button.
5. Next, check VID, PID and Rev. entries in the USB storage data. If any of them are different from the values in 3. above, make the changes and then click the corresponding Set button.

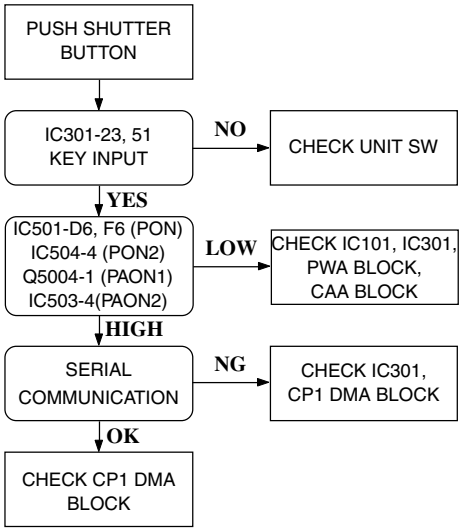


5. TROUBLESHOOTING GUIDE

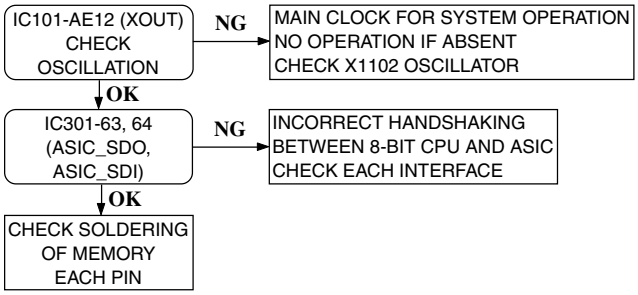
POWER LOSS INOPERTIVE



TAKING INOPERATIVE



NO PICTURE



6. PARTS LIST

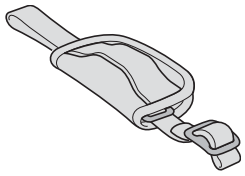
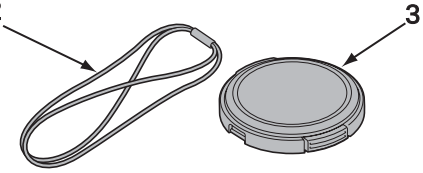
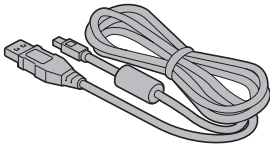
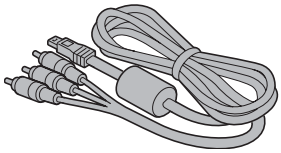
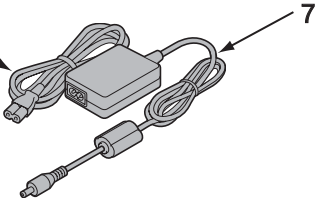
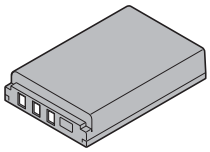
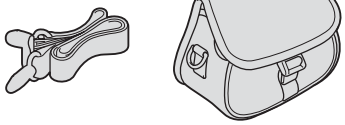
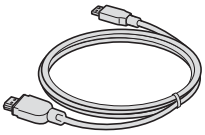
PACKING MATERIALS

LOCATION	PARTS NO.	DESCRIPTION
7001	636 122 9296	CARTON INNER-SG314/EX VPC-TH1EX,VPC-TH1GX,VPC-TH1EXR, VPC-TH1GXR,VPC-TH1EXBL,VPC-TH1GXBL
7001	636 122 9289	CARTON INNER-SG314/U VPC-TH1,VPC-TH1R,VPC-TH1BL
7001	636 126 2040	CARTON INNER-SG314/U4 VPC-ZH1R ONLY
7002	636 122 9326	REINFORCE PAD,A-SG314/J INNER BOTTOM
7003	636 077 8139	CUSHION SHEET-SX774/KRO
7004	636 123 6843	LABEL BLUE MODEL-SG314/U3 VPC-TH1BL,VPC-TH1EXBL,VPC-TH1GXBL
7004	636 123 6836	LABEL RED MODEL-SG314/U2 VPC-TH1R,VPC-TH1EXR,VPC-TH1GXR
7005	636 083 6532	LABEL CARTON BLUE-718EX2 VPC-TH1BL,VPC-TH1EXBL,VPC-TH1GXBL
7005	636 094 2158	LABEL CARTON RED-815/EX2 VPC-TH1R,VPC-TH1EXR,VPC-TH1GXR
7006	636 126 2057	CARTON INNER2-SG314/U4 VPC-ZH1R ONLY

ACCESSORIES

LOCATION		PARTS NO.	DESCRIPTION
Note: Refer to the table of accessories.			
1		636 124 1403	STRAP BELT-SG314/U
2		636 103 1783	STRAP CAP LENS-SG112/J
3		636 123 0414	ASSYL,CAP LENS-SG314
4		645 099 2780	CABLE,DSC USB (Ddicated USB inter face cable)
OR		645 099 2797	CABLE,DSC USB (Ddicated USB inter face cable)
5		645 099 2803	CABLE,DSC A/V (Ddicated AV inter face cable)
OR		645 099 2810	CABLE,DSC A/V (Ddicated AV inter face cable)
6	⚠	645 098 8721	CORD,POWER-1.2MK VPC-TH1EX,VPC-TH1EXR,VPC-TH1EXBL
OR	⚠	645 076 0235	CORD,POWER-1.5MK VPC-TH1EX,VPC-TH1EXR,VPC-TH1EXBL
6	⚠	645 084 0104	CORD,POWER-1.8MK VPC-TH1,VPC-TH1R,VPC-TH1BL,VPC-ZH1R
OR	⚠	645 098 8714	CORD,POWER-1.9MK VPC-TH1,VPC-TH1R,VPC-TH1BL,VPC-ZH1R
7	⚠	645 095 6034	ADAPTOR,AC-DC
8	⚠	645 098 9612	BATTERY,RECHARGE,LI-ION
9		636 126 2101	CASE SOFT-SG314/U4 VPC-ZH1R ONLY
10		645 099 2834	CABLE,DSC HDMI-TYPE A&C (Mini HDMI cable) VPC-ZH1R ONLY
11		636 127 0755	DISC,CD-ROM XSC G314 U4 (N.S.P.) Xacti software,PDF instruction manual(English, French,Spanish) VPC-ZH1R ONLY
11		636 123 2159	DISC,CD-ROM XSD G314 U (N.S.P.) Xacti software, PDF instruction manual and quick guide(English, French,German,Spanish,Italian,Dutch,Portuguese, Russian,Turkish,Korean,Traditional chinese, Simplified chinese Note:Turkish is only a quick guide.) EXCEPT VPC-ZH1R
9051		636 123 5013	INSTRUCTION MANUAL Quick guide(English, French,German,Spanish,Italian,Dutch,Portuguese, Russian) EXCEPT VPC-ZH1R
9051		636 127 3114	INSTRUCTION MANUAL Quick guide(English, French,Spanish) VPC-ZH1R ONLY
9052		636 123 5020	INSTRUCTION MANUAL Quick guide(Turkish, Korean,Traditional chinese,Simplified chinese) EXCEPT VPC-ZH1R
9053		636 123 5037	INSTRUCTION MANUAL Camera/Software (English) EXCEPT VPC-ZH1R
9053		636 127 3121	INSTRUCTION MANUAL Camera/Software (English) VPC-ZH1R ONLY

Table of accessories

1 	2 3 
4 	5 
6 7 	8 
9 	10 
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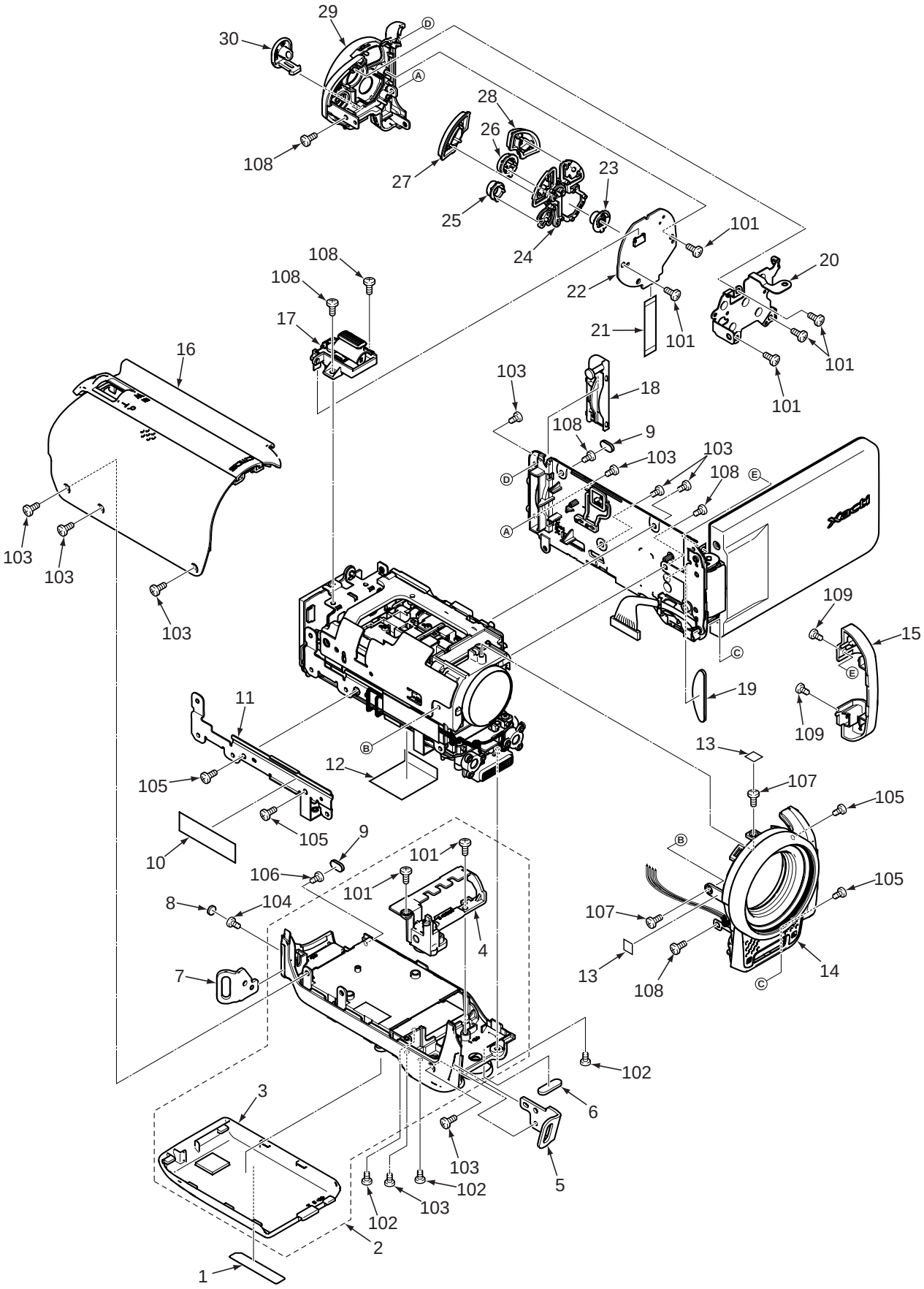
CABINET AND CHASSIS PARTS 1

LOCATION	PARTS NO.	DESCRIPTION
1	636 125 8289	LABEL CAUTION-SG217/U
2	636 122 9395	ASSY,CABI BOTTOM-SG314
3	636 123 0407	ASSY,COVER BATTERY-SG314/
4	636 121 5442	STAND-SG314/J
5	636 121 5350	HOLDER STRAP FRONT-SG314
6	636 126 0633	SPACER BOTTOM-SG314/JO
7	636 121 5367	HOLDER STRAP BACK-SG314/J
8	636 125 8685	SPACER BLIND-SG314/J
9	636 126 2439	SPACER LCD-SG314/J
10	636 122 9340	SPACER MIC-SG314/J
11	636 121 5428	HOLDER BOTTOM-SG314/J
12	636 126 0671	SPACER SHILD WIRE-SG314/J
13	636 127 2582	SPACER CABI FRONT-SG314/J
14	636 123 0315	COMPL,CABINET FRONT-SG314
15	636 121 5169	DEC JOINT-SG314/J VPC-TH1,VPC-TH1EX,VPC-TH1GX
15	636 123 0520	DEC JOINT-SG314/J2 VPC-TH1R, VPC-TH1EXR,VPC-TH1GXR,VPC-ZH1R
15	636 123 0537	DEC JOINT-SG314/J3 VPC-TH1BL,VPC-TH1EXBL,VPC-TH1GXBL
16	636 123 0339	COMPL,CABINET TOP-SG314
17	645 099 0168	UNIT,ZOOM-SG314/J
18	636 121 4940	COVER SD-SG314/J
19	636 126 2446	SPACER LCD FRONT-SG314/J
20	636 121 5381	HOLDER BACK-SG314/J
21	636 122 6356	FLEXIBLE PWB CP1&TB4SG314
22	636 120 9830	COMPL PWB,TB-4
23	636 121 4766	BUTTON SELECT-SG314/J
24	636 121 5916	HOLDER BUTTON BAS-SG314/J
25	636 121 4735	BUTTON MENU-SG314/J
26	636 121 4773	BUTTON REC PLAY-SG314/J
27	636 121 4759	BUTTON MOVIE-SG314/J
28	636 121 4742	BUTTON SHUTTER-SG314/J
29	636 121 4803	CABINET BACK-SG314/J
30	636 121 4964	COVER DC-SG314/J
101	411 178 9403	SCR S-TPG PAN PCS 1.7X4.0
102	411 193 2106	SCR S-TPG PAN PCS 1.7X4.0
103	411 194 8206	SCR PAN PCS 1.7X3
104	412 078 7902	SPECIAL SCREW-1.7X3.0
105	411 178 6204	SCR PAN PCS 1.7X4
106	411 218 4405	SCR S-TPG PAN PCS 1.7X7
107	411 177 9503	SCR S-TPG PAN PCS 1.7X3
108	411 175 5705	SCR PAN PCS 1.7X3
109	411 184 0005	SCR PAN PCS 1.7X2.0 VPC-TH1,VPC-TH1EX,VPC-TH1GX
109	411 194 8404	SCR PAN PCS 1.7X2.0 EXCEPT VPC-TH1,VPC-TH1EX,VPC-TH1GX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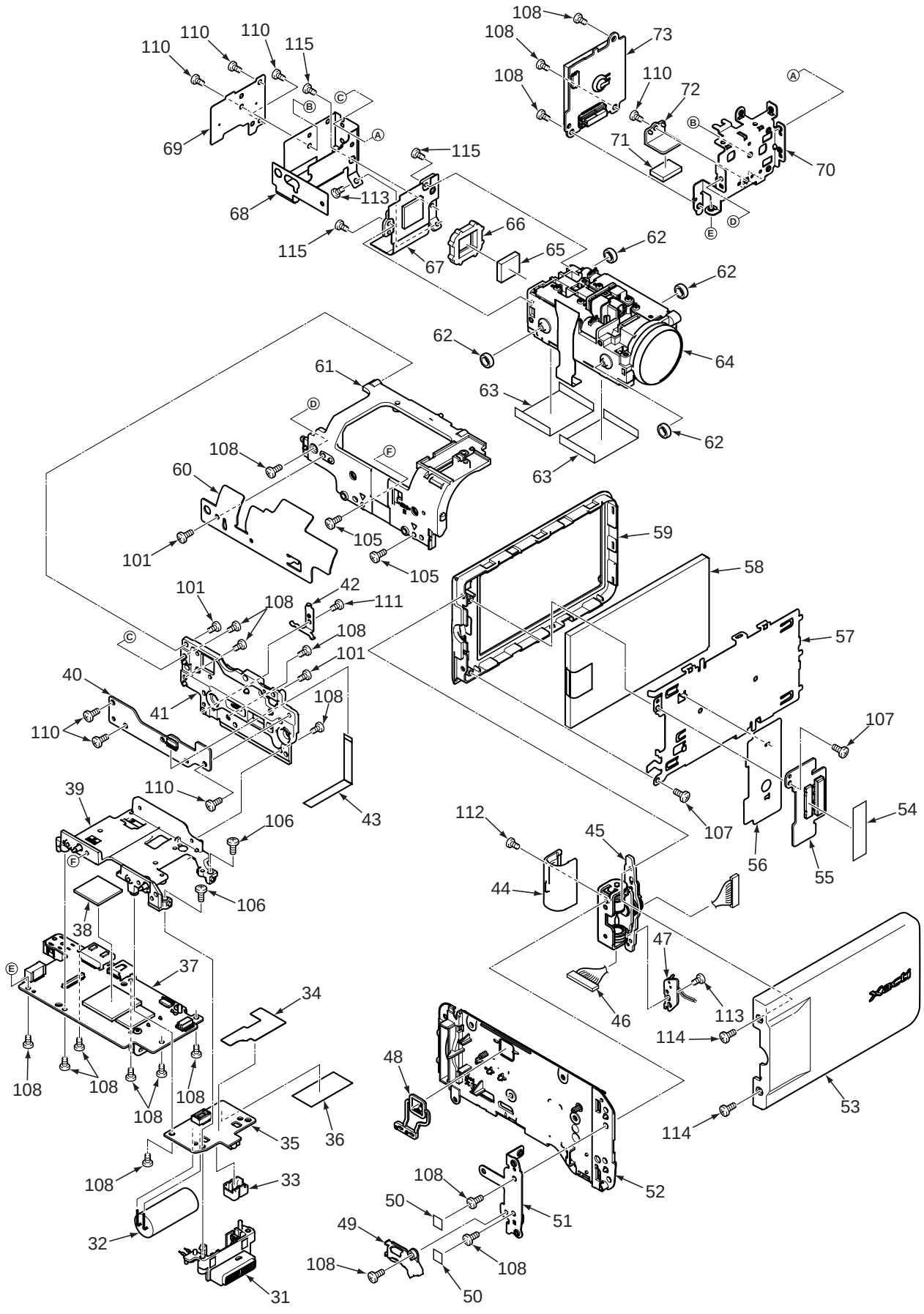
CABINET AND CHASSIS PARTS 2

LOCATION	PARTS NO.	DESCRIPTION
31	645 099 2308	ASSY,LAMP-SG314
32	404 120 5400	ELECT 60U A 300V
33	636 068 0265	COVER TRIGER-SX612/J
34	636 126 0688	SPACER ST1-SG314/J
35	636 120 5276	COMPL PWB,ST-1
36	636 121 5251	SPACER CON ST1-SG314/J
37	636 123 3057	COMPL PWB,CP-1 F/W
38	636 121 5329	HEAT SINK RUB ASIC-SG314
39	636 121 5183	CHASSIS BOTTOM-SG314/J
40	636 120 9823	COMPL PWB,TB-3
41	636 121 5176	CHASSIS RIGHT-SG314/J
42	636 121 5107	EARTH JACK-SG314/J
43	636 122 6349	FLEXIBLE PWB CP1&TB3SG314
44	636 121 4926	COVER JOINT-SG314/J VPC-TH1,VPC-TH1EX,VPC-TH1GX
44	636 123 0483	COVER JOINT-SG314/J2 VPC-TH1R, VPC-TH1EXR,VPC-TH1GXR,VPC-ZH1R
44	636 123 0490	COVER JOINT-SG314/J3 VPC-TH1BL, VPC-TH1EXBL,VPC-TH1GXBL
45	636 121 5336	ASSY,JOINT-SG314/J
46	636 106 6310	ASSY,SHIELD WIRE CP1-VF1
47	636 120 5054	COMPL PWB,TB-2
48	636 121 4780	BUTTON POWER-SG314/J
49	636 121 5268	HOLDER WIRE-SG314/J
50	636 127 3152	SPACER HOLDER JOINT-SG314
51	636 121 5411	HOLDER JOINT-SG314/J
52	636 121 4865	CABINET RIGHT-SG314/J
53	636 126 5089	ASSY,COVER LCD B-SV-314 VPC-TH1,VPC-TH1EX,VPC-TH1GX
53	636 126 5119	ASSY,COVER LCD B-SV-314 VPC-TH1R, VPC-TH1EXR,VPC-TH1GXR,VPC-ZH1R
53	636 126 5133	ASSY,COVER LCD B-SV-314 VPC-TH1BL,VPC-TH1EXBL,VPC-TH1GXBL
54	636 127 1608	SPACER LCD FPC-SG314/J
55	636 120 9809	COMPL PWB,VF-1
56	636 121 5237	SPACER PWB-SG314/J
57	636 121 5404	HOLDER LCD-SG314/J
58	645 098 7229	LCD(990000412)
59	636 126 5065	ASSY,COVER LCD F-SV-SG314 EXCEPT VPC-ZH1R
59	636 127 6085	ASSY,COVER LCD F-SV-SG314 VPC-ZH1R ONLY
60	636 121 5138	HEAT SINK CMOS-SG314/J
61	636 121 5213	HOLDER LENS CHASSIS-SG314
62	636 105 2207	HOLDER LENS-SG211/J
63	636 127 1820	SPACER LENS BOTTOM-SG314
64	645 099 3169	LENS(ASSY)
65	645 099 2520	OPTICAL FILTER
66	636 122 4772	SPACER SG314
67	636 122 8558	ASSY,FPC CA1 SV-SG314
68	636 127 4050	HEAT SINK TAPE CMOS-SG314
69	636 125 7206	HOLDER HEAT CMOS TB1-314
70	636 121 5374	HOLDER TB1-SG314/J
71	636 121 5282	SPACER CA-SG314/J
72	636 121 5312	HOLDER CA-SG314/J
73	636 120 9816	COMPL PWB,TB-1
101	411 178 9403	SCR S-TPG PAN PCS 1.7X4.0
105	411 178 6204	SCR PAN PCS 1.7X4
106	411 218 4405	SCR S-TPG PAN PCS 1.7X7
107	411 177 9503	SCR S-TPG PAN PCS 1.7X3
108	411 175 5705	SCR PAN PCS 1.7X3
110	411 176 1003	SCR PAN PCS 1.7X2.5
111	411 181 2705	SCR PAN PCS-1.4X2
112	411 199 0601	SCR TIN 1.7X2 EXCEPT VPC-TH1,VPC-TH1EX,VPC-TH1GX
112	411 199 0700	SCR TIN 1.7X2 VPC-TH1,VPC-TH1EX,VPC-TH1GX
113	411 184 0005	SCR PAN PCS 1.7X2.0
114	411 175 5705	SCR PAN PCS 1.7X3 VPC-TH1,VPC-TH1EX,VPC-TH1GX
114	411 194 8206	SCR PAN PCS 1.7X3 EXCEPT VPC-TH1,VPC-TH1EX,VPC-TH1GX
115	411 178 0103	SCR S-TPG PAN PCS 1.4X3.5



SG314/J PARTS LIST 2

ELECTRICAL PARTS

Note:

1. Materials of Capacitors and Resistors are abbreviated as follows ;

Resistors		Capacitors	
MT-FILM	Metallized Film Resistor	MT-POLYEST	Metallized Polyester Capacitor
MT-GLAZE	Metallized Glaze Resistor	MT-COMPO	Metallized Composite Capacitor
OXIDE-MT	Oxide Metallized Film Resistor	TA-SOLID	Tantalum Solid Capacitor
		AL-SOLID	Aluminum Solid Capacitor
		NP-ELECT	Non-Polarized Electrolytic Capacitor
		OS-SOLID	Aluminum Solid Capacitors with Organic Semiconductive Electrolytic Capacitor
		DL-ELECT	Double Layered Electrolytic Capacitor
		POS-SOLID	Polymerized Organic Semiconductor Capacitor

2. Tolerance of Capacitor (10pF over) and Resistor are noted with follow symboles.

F .....1% G .....2% J .....5% K 10%
M .....20% N .....30% Z .....+80% ~ -20%

3. Capacitors

U : µF P : pF

4. Inductors

UH : µH MH : mH

5. N.S.P. : Not available as service parts.

COMPL PWB,CP-1 F/W

636 123 3057

LOCATION	PARTS NO.	DESCRIPTION
	(SEMICONDUCTORS)	
Q1301	305 168 3703	TR DTC144EM
OR	305 216 1200	TR RN1104MFV
OR	305 172 4703	TR UNR32A3
Q1302	305 167 0406	TR EMD12
OR	405 218 3902	TR UP0431300
OR	305 216 2108	TR RN4984FE
Q1902	305 167 0406	TR EMD12
OR	405 218 3902	TR UP0431300
OR	305 216 2108	TR RN4984FE
Q3001	305 200 9007	TR EML17
OR	305 210 5709	TR UP0KG8D
Q3001	305 217 3906	TR HN2E07JE
Q3003	305 167 0406	TR EMD12
OR	405 218 3902	TR UP0431300
OR	305 216 2108	TR RN4984FE
Q3005	305 166 9509	TR EMH2
OR	305 181 1205	TR NSBC144EDXV6T5
OR	305 186 7301	TR UP04213 00
OR	305 173 4009	TR PEMH2
Q5003	405 218 4701	TR SSM3J120TU
Q5004	305 181 4909	TR 2SK3541
Q5007	405 219 2706	TR MCH5835-E
Q5008	305 200 6006	TR UP03397
Q5009	305 168 3703	TR DTC144EM
OR	305 216 1200	TR RN1104MFV
OR	305 172 4703	TR UNR32A3
Q5013	405 218 2707	TR UPA650TT-A
Q5014	305 181 4909	TR 2SK3541
Q5201	405 218 2707	TR UPA650TT-A
Q5202	305 206 7700	TR SI3473DV-E3
Q5203	405 218 2707	TR UPA650TT-A
Q5204	305 181 4909	TR 2SK3541
Q9001	405 220 5604	TR RUM003N02
Q9002	405 220 5604	TR RUM003N02
	(INTEGRATEDCIRCUITS)	
IC101	409 696 6301	IC EV3XA BGA (N.S.P.)
IC111	409 680 0704	IC AK8113L
IC121	410 663 3001	IC K5W1213LCA-AK60 BGA (N.S.P.)
IC153	309 675 0101	IC AN13208A LGA (N.S.P.)
IC181	309 650 3509	IC TK70630HC-G
IC182	409 697 3101	IC AK4649ECB-L BGA (N.S.P.)
IC191	410 671 2508	IC TDA9989BET/C1,518 BGA (N.S.P.)
IC301	410 655 7604	IC LC87F2924BUFL64TBM-E BGA (N.S.P.)
IC302	309 611 7607	IC NJU7286ARB1
IC305	409 695 0102	IC MAX17022ETA+
IC501	410 667 4905	IC UPD168805FC-AN2-A BGA (N.S.P.)
IC503	409 696 6103	IC XC9235C28CE
IC504	409 695 6401	IC XC9235C18CE
IC521	409 695 5800	IC MAX8601ETD+
IC901	409 696 6202	IC XC6221B082G
IC902	409 690 0909	IC TK70628HC-G
IC903	409 690 0909	IC TK70628HC-G
IC951	410 676 4507	IC LC898200A-TBM-H BGA (N.S.P.)
IC952	409 685 5308	IC XC6221S04XG
	(DIODES)	
D1901	407 261 8903	DIODE RB520S-30FJ
D5002	307 250 1802	DIODE RB496EA
D5003	307 248 0701	DIODE MA21D3800
D5007	307 250 0706	DIODE DRB060M-30
D5201	307 248 2408	ZENER DIODE EDZ7.5B
D5202	307 248 2408	ZENER DIODE EDZ7.5B
D5203	307 248 2408	ZENER DIODE EDZ7.5B
D5204	307 248 0701	DIODE MA21D3800
D5301	307 248 0701	DIODE MA21D3800
	(OSCILLATORS)	
X1102	645 094 0170	OSC,CRYSTAL 48.00000MHZ
X1901	645 069 0075	OSC,CERAMIC 12.00MHZ
X3002	645 090 3298	OSC,CRYSTAL 32.768KHZ
	(INDUCTORS)	
L1002	645 094 0521	IMPEDANCE,33 OHM P
L1003	945 053 2666	IMPEDANCE,10 OHM P
L1005	645 094 0521	IMPEDANCE,33 OHM P
L1006	945 066 4688	IMPEDANCE,30 OHM P
L1007	945 053 5476	IMPEDANCE,240 OHM P
L1301	645 095 6522	FILTER,EMI 90 OHM
L1303	945 053 5414	IMPEDANCE,1000 OHM P
L1304	945 053 5414	IMPEDANCE,1000 OHM P
L1501	945 070 8627	INDUCTOR,10U M
L1502	945 070 8627	INDUCTOR,10U M
L1901	645 090 9719	IMPEDANCE,90 OHM M
L1902	645 090 9719	IMPEDANCE,90 OHM M
L5001	945 066 4688	IMPEDANCE,30 OHM P
L5002	645 084 3976	INDUCTOR,4.7U M
OR	645 098 1968	INDUCTOR,4.7U M
L5003	645 089 9775	INDUCTOR,2.2U M
OR	645 098 2002	INDUCTOR,2.2U M
L5005	645 095 6508	INDUCTOR,4.7U N
L5006	645 084 3976	INDUCTOR,4.7U M
OR	645 098 1968	INDUCTOR,4.7U M
L5007	645 095 6515	INDUCTOR,6.8U N
L5301	645 091 0043	INDUCTOR,4.7U M
OR	645 098 2118	INDUCTOR,4.7U M
	(CAPACITORS)	
CB182	403 454 5100	CERAMIC 1U K 10V
CB183	403 454 5100	CERAMIC 1U K 10V
CB301	303 392 5500	CERAMIC 1U K 6.3V
CB302	303 392 5500	CERAMIC 1U K 6.3V
CB303	303 391 4306	CERAMIC 0.1U K 16V

LOCATION	PARTS NO.	DESCRIPTION
C1001	303 311 3501	CERAMIC 1000P K 50V
C1005	303 382 2700	CERAMIC 4.7U K 6.3V
C1006	303 343 4705	CERAMIC 0.1U K 10V
C1010	303 343 4705	CERAMIC 0.1U K 10V
C1012	303 343 4705	CERAMIC 0.1U K 10V
C1013	303 343 4705	CERAMIC 0.1U K 10V
C1017	303 391 3804	CERAMIC 1U K 6.3V
C1018	303 311 3303	CERAMIC 0.01U K 16V
C1047	303 382 2700	CERAMIC 4.7U K 6.3V
C1048	303 382 2700	CERAMIC 4.7U K 6.3V
C1051	303 343 4705	CERAMIC 0.1U K 10V
C1052	303 343 4705	CERAMIC 0.1U K 10V
C1053	303 343 4705	CERAMIC 0.1U K 10V
C1054	303 343 4705	CERAMIC 0.1U K 10V
C1057	303 343 4705	CERAMIC 0.1U K 10V
C1058	303 343 4705	CERAMIC 0.1U K 10V
C1063	303 343 4705	CERAMIC 0.1U K 10V
C1064	303 343 4705	CERAMIC 0.1U K 10V
C1065	303 343 4705	CERAMIC 0.1U K 10V
C1066	303 343 4705	CERAMIC 0.1U K 10V
C1121	303 314 6509	CERAMIC 7P D 50V
C1122	303 314 6509	CERAMIC 7P D 50V
C1201	303 384 9202	CERAMIC 1U M 4V
C1204	303 343 4705	CERAMIC 0.1U K 10V
C1205	303 343 4705	CERAMIC 0.1U K 10V
C1206	303 343 4705	CERAMIC 0.1U K 10V
C1207	303 343 4705	CERAMIC 0.1U K 10V
C1208	303 343 4705	CERAMIC 0.1U K 10V
C1209	303 375 0300	CERAMIC 4.7U K 4V
C1304	403 455 1002	CERAMIC 1U K 10V
C1506	303 391 3804	CERAMIC 1U K 6.3V
C1507	303 391 3804	CERAMIC 1U K 6.3V
C1509	303 391 3804	CERAMIC 1U K 6.3V
C1510	303 419 8903	CERAMIC 10U M 6.3V
C1511	303 382 2700	CERAMIC 4.7U K 6.3V
C1512	303 439 8402	CERAMIC 2.2U K 6.3V
C1513	303 382 2700	CERAMIC 4.7U K 6.3V
C1514	303 382 2700	CERAMIC 4.7U K 6.3V
C1515	303 382 2700	CERAMIC 4.7U K 6.3V
C1801	303 343 4705	CERAMIC 0.1U K 10V
C1802	303 382 2700	CERAMIC 4.7U K 6.3V
C1804	303 343 4705	CERAMIC 0.1U K 10V
C1805	303 343 4705	CERAMIC 0.1U K 10V
C1810	303 439 8402	CERAMIC 2.2U K 6.3V
C1811	303 311 7301	CERAMIC 4700P K 25V
C1812	303 382 2700	CERAMIC 4.7U K 6.3V
C1818	303 343 4705	CERAMIC 0.1U K 10V
C1901	303 391 3804	CERAMIC 1U K 6.3V
C1902	303 391 3804	CERAMIC 1U K 6.3V
C1903	303 391 3804	CERAMIC 1U K 6.3V
C1904	303 311 5109	CERAMIC 3P C 50V
C1905	303 311 5109	CERAMIC 3P C 50V
C1906	303 343 4705	CERAMIC 0.1U K 10V
C1907	303 391 3804	CERAMIC 1U K 6.3V
C1908	303 343 4705	CERAMIC 0.1U K 10V
C1909	303 391 3804	CERAMIC 1U K 6.3V
C1910	303 311 3303	CERAMIC 0.01U K 16V
C1911	303 343 4705	CERAMIC 0.1U K 10V
C3001	303 391 0506	CERAMIC 10U K 6.3V
C3005	303 391 3804	CERAMIC 1U K 6.3V
C3006	303 391 3804	CERAMIC 1U K 6.3V
C3012	303 311 7103	CERAMIC 22P J 50V
C3015	303 311 7103	CERAMIC 22P J 50V
C5001	303 343 4705	CERAMIC 0.1U K 10V
C5003	303 373 5307	CERAMIC 4.7U K 6.3V
C5004	303 319 3008	CERAMIC 220P J 25V
C5005	403 455 1002	CERAMIC 1U K 10V
C5006	303 346 2302	CERAMIC 0.1U K 10V
C5007	303 383 5007	CERAMIC 1U K 16V
C5021	303 392 5005	CERAMIC 22U M 6.3V
C5022	303 392 5005	CERAMIC 22U M 6.3V
C5024	303 311 7103	CERAMIC 22P J 50V
C5031	303 392 5005	CERAMIC 22U M 6.3V
C5032	303 311 4805	CERAMIC 470P K 50V
C5033	303 378 5302	CERAMIC 1U K 10V
C5036	303 334 0907	CERAMIC 1U K 6.3V
C5037	303 334 0907	CERAMIC 1U K 6.3V

LOCATION	PARTS NO.	DESCRIPTION
C5055	303 334 0907	CERAMIC 1U K 6.3V
C5061	303 382 2700	CERAMIC 4.7U K 6.3V
C5062	303 358 3205	CERAMIC 10U K 6.3V
C5071	403 455 1408	CERAMIC 2.2U K 16V
C5072	303 383 5007	CERAMIC 1U K 16V
C5073	303 311 3303	CERAMIC 0.01U K 16V
C5074	303 334 0907	CERAMIC 1U K 6.3V
C5111	303 382 2700	CERAMIC 4.7U K 6.3V
C5112	303 358 3205	CERAMIC 10U K 6.3V
C5201	403 455 1408	CERAMIC 2.2U K 16V
C5202	403 455 1408	CERAMIC 2.2U K 16V
C5204	303 348 1204	CERAMIC 0.068U K 10V
C5206	403 455 1002	CERAMIC 1U K 10V
C5207	403 455 1002	CERAMIC 1U K 10V
C5208	403 455 1002	CERAMIC 1U K 10V
C5301	303 358 3205	CERAMIC 10U K 6.3V
C5302	303 381 1209	POS-SOLID 33U M 6.3V
C5303	303 309 8709	CERAMIC 100P J 50V
C5304	303 383 5007	CERAMIC 1U K 16V
C9001	303 391 3804	CERAMIC 1U K 6.3V
C9002	303 374 5801	CERAMIC 0.22U K 6.3V
C9003	303 382 2700	CERAMIC 4.7U K 6.3V
C9004	303 391 3804	CERAMIC 1U K 6.3V
C9006	303 419 8903	CERAMIC 10U M 6.3V
C9009	303 374 5801	CERAMIC 0.22U K 6.3V
C9011	303 391 3804	CERAMIC 1U K 6.3V
C9013	303 334 0907	CERAMIC 1U K 6.3V
C9502	303 343 4705	CERAMIC 0.1U K 10V
C9504	303 343 4705	CERAMIC 0.1U K 10V
C9505	303 343 4705	CERAMIC 0.1U K 10V
C9506	303 343 4705	CERAMIC 0.1U K 10V
C9508	303 340 2803	CERAMIC 2.2U K 10V
C9510	303 311 3501	CERAMIC 1000P K 50V
C9511	303 313 3905	CERAMIC 680P K 50V
C9512	303 313 3905	CERAMIC 680P K 50V
C9513	303 343 4705	CERAMIC 0.1U K 10V
C9515	303 343 4705	CERAMIC 0.1U K 10V
C9516	303 358 8309	CERAMIC 1U K 10V
C9517	303 311 3501	CERAMIC 1000P K 50V
C9518	303 343 4705	CERAMIC 0.1U K 10V
C9519	303 313 3905	CERAMIC 680P K 50V
C9520	303 311 3501	CERAMIC 1000P K 50V
C9523	303 374 5801	CERAMIC 0.22U K 6.3V
C9524	303 358 8309	CERAMIC 1U K 10V
	(RESISTOR PACKS)	
RB101	645 040 1756	R-NETWORK 10KX4 1/32W
RB102	645 078 4019	R-NETWORK 0X2 0.063W
RB103	645 072 9119	R-NETWORK 150X4 1/16W
RB104	645 072 9119	R-NETWORK 150X4 1/16W
RB106	645 066 4328	R-NETWORK 47X4 1/16W
RB107	645 066 4328	R-NETWORK 47X4 1/16W
RB109	645 066 4328	R-NETWORK 47X4 1/16W
RB110	645 066 4328	R-NETWORK 47X4 1/16W
RB111	645 040 1756	R-NETWORK 10KX4 1/32W
RB181	645 091 2900	R-NETWORK 20KX2 1/16W
RB182	645 078 4613	R-NETWORK 2.2KX2 0.063W
RB183	645 091 2887	R-NETWORK 200X2 1/16W
RB184	645 078 4002	R-NETWORK 100KX2 0.063W
RB303	645 029 6000	R-NETWORK 100KX4 1/32W
RB304	645 032 8862	R-NETWORK 47KX4 1/32W
RB305	645 029 5997	R-NETWORK 1KX4 1/32W
RB306	645 051 0854	R-NETWORK 330X4 1/32W
RB307	645 029 5997	R-NETWORK 1KX4 1/32W
RB311	645 072 9157	R-NETWORK 150KX2 0.063W
RB312	645 078 4002	R-NETWORK 100KX2 0.063W
RB951	645 078 4606	R-NETWORK 220X2 0.063W
RB952	645 064 1619	R-NETWORK 39KX2 1/16W
	(RESISTORS)	
R1001	301 224 9009	MT-GLAZE 10K JA 1/16W
R1002	301 237 2905	MT-GLAZE 51 JA 1/16W
R1008	301 224 9009	MT-GLAZE 10K JA 1/16W
R1010	301 224 9306	MT-GLAZE 1K JA 1/16W
R1014	301 224 8804	MT-GLAZE 100 JA 1/16W
R1015	301 225 1200	MT-GLAZE 4.7K JA 1/16W
R1019	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1020	301 224 8804	MT-GLAZE 100 JA 1/16W
R1021	301 224 9009	MT-GLAZE 10K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R1023	301 225 7905	MT-GLAZE 220 JA 1/16W
R1024	301 225 7905	MT-GLAZE 220 JA 1/16W
R1025	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1027	301 224 8804	MT-GLAZE 100 JA 1/16W
R1028	301 225 1200	MT-GLAZE 4.7K JA 1/16W
R1029	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1032	301 224 9009	MT-GLAZE 10K JA 1/16W
R1041	301 261 1004	MT-GLAZE 2.4K JA 1/16W
R1053	301 261 6702	MT-FILM 100 DU 1/16W
R1056	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1090	401 352 2108	MT-GLAZE 44.2 DD 1/16W
R1121	301 261 5101	MT-FILM 1.0K DU 1/16W
R1122	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R1256	301 224 8804	MT-GLAZE 100 JA 1/16W
R1301	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1302	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1303	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1304	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1352	301 224 9009	MT-GLAZE 10K JA 1/16W
R1516	301 261 9703	MT-FILM 75 DD 1/16W
R1517	301 261 9901	MT-FILM 91 DD 1/16W
R1519	301 261 9901	MT-FILM 91 DD 1/16W
R1529	301 261 9703	MT-FILM 75 DD 1/16W
R1534	301 261 9703	MT-FILM 75 DD 1/16W
R1537	301 261 9703	MT-FILM 75 DD 1/16W
R1801	301 225 8100	MT-GLAZE 10 JA 1/16W
R1802	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1814	301 224 9009	MT-GLAZE 10K JA 1/16W
R1815	301 224 9009	MT-GLAZE 10K JA 1/16W
R1904	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1911	301 225 1200	MT-GLAZE 4.7K JA 1/16W
R1914	301 224 8804	MT-GLAZE 100 JA 1/16W
R1915	301 224 8804	MT-GLAZE 100 JA 1/16W
R1916	301 224 8804	MT-GLAZE 100 JA 1/16W
R1917	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1918	301 224 8804	MT-GLAZE 100 JA 1/16W
R1919	301 224 8804	MT-GLAZE 100 JA 1/16W
R1920	301 224 9900	MT-GLAZE 22K JA 1/16W
R1921	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1922	301 261 2605	MT-FILM 10K DU 1/16W
R1924	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1925	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1934	301 225 0104	MT-GLAZE 27K JA 1/16W
R1935	301 225 8506	MT-GLAZE 1.8K JA 1/16W
R1936	301 225 8506	MT-GLAZE 1.8K JA 1/16W
R1937	301 225 0203	MT-GLAZE 3.3K JA 1/16W
R3001	301 225 8001	MT-GLAZE 330 JA 1/16W
R3002	301 224 9306	MT-GLAZE 1K JA 1/16W
R3003	301 224 9306	MT-GLAZE 1K JA 1/16W
R3004	301 225 0401	MT-GLAZE 330K JA 1/16W
R3005	301 261 2605	MT-FILM 10K DU 1/16W
R3009	301 224 9306	MT-GLAZE 1K JA 1/16W
R3010	301 225 1200	MT-GLAZE 4.7K JA 1/16W
R3011	301 225 0401	MT-GLAZE 330K JA 1/16W
R3012	301 225 7905	MT-GLAZE 220 JA 1/16W
R3013	301 261 8706	MT-FILM 22K DD 1/16W
R3014	301 263 2306	MT-GLAZE 750 JA 1/16W
R3015	301 224 9306	MT-GLAZE 1K JA 1/16W
R3019	301 224 9009	MT-GLAZE 10K JA 1/16W
R3026	301 224 9306	MT-GLAZE 1K JA 1/16W
R5001	301 261 5002	MT-FILM 910 DU 1/16W
R5010	301 224 9009	MT-GLAZE 10K JA 1/16W
R5021	301 258 7101	MT-GLAZE 180K DC 1/16W
R5022	301 261 7907	MT-FILM 68K DD 1/16W
R5023	301 261 9109	MT-FILM 12K DD 1/16W
R5024	301 224 9504	MT-GLAZE 2.2K JA 1/16W
R5031	301 261 2308	MT-FILM 7.5K DU 1/16W
R5032	301 261 9307	MT-FILM 15K DD 1/16W
R5042	301 224 8903	MT-GLAZE 100K JA 1/16W
R5043	301 224 8804	MT-GLAZE 100 JA 1/16W
R5044	301 225 1200	MT-GLAZE 4.7K JA 1/16W
R5045	301 225 0104	MT-GLAZE 27K JA 1/16W
R5046	301 224 8903	MT-GLAZE 100K JA 1/16W
R5055	301 224 8903	MT-GLAZE 100K JA 1/16W
R5056	301 224 9306	MT-GLAZE 1K JA 1/16W
R5057	301 225 0104	MT-GLAZE 27K JA 1/16W
R5058	301 240 9601	MT-GLAZE 680K JA 1/16W
R5059	301 224 8903	MT-GLAZE 100K JA 1/16W
R5061	301 261 7303	MT-FILME 82K DD 1/16W
R5062	301 261 8508	MT-FILM 47K DD 1/16W
R5063	301 224 8903	MT-GLAZE 100K JA 1/16W
R5070	301 224 8903	MT-GLAZE 100K JA 1/16W
R5071	301 240 9601	MT-GLAZE 680K JA 1/16W
R5072	301 225 1408	MT-GLAZE 47K JA 1/16W
R5074	301 225 0807	MT-GLAZE 68K JA 1/16W
R5075	301 261 9307	MT-FILM 15K DD 1/16W
R5076	301 262 3205	MT-FILM 33 DD 1/16W
R5111	301 224 8903	MT-GLAZE 100K JA 1/16W
R5201	301 224 8903	MT-GLAZE 100K JA 1/16W
R5202	301 261 3800	MT-FILM 2.0K DU 1/16W
R5203	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R5204	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R5205	301 224 8903	MT-GLAZE 100K JA 1/16W
R5206	301 225 0104	MT-GLAZE 27K JA 1/16W
R5207	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R5208	301 224 9306	MT-GLAZE 1K JA 1/16W
R5209	301 224 8903	MT-GLAZE 100K JA 1/16W
R5210	301 224 9306	MT-GLAZE 1K JA 1/16W
R5301	301 258 7101	MT-GLAZE 180K DC 1/16W
R5302	301 261 8409	MT-FILM 43K DD 1/16W
R5303	301 261 3800	MT-FILM 2.0K DU 1/16W
R5304	301 261 8706	MT-FILM 22K DD 1/16W
R9003	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9004	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9005	301 224 9504	MT-GLAZE 2.2K JA 1/16W
R9006	301 261 1509	MT-GLAZE 4.3K JA 1/16W
R9008	301 224 9009	MT-GLAZE 10K JA 1/16W
R9013	301 224 9702	MT-GLAZE 22 JA 1/16W
R9014	301 224 9702	MT-GLAZE 22 JA 1/16W
R9015	301 225 3808	MT-GLAZE 1.5K JA 1/16W
R9016	301 225 3808	MT-GLAZE 1.5K JA 1/16W
R9501	301 314 0404	MT-FILM 27 FD 1/6W
R9502	301 314 0503	MT-FILM 22 FD 1/6W
R9504	301 261 8508	MT-FILM 47K DD 1/16W
R9505	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9506	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9507	301 225 8100	MT-GLAZE 10 JA 1/16W
R9510	301 261 2704	MT-FILM 4.7K DU 1/16W
R9511	301 261 2704	MT-FILM 4.7K DU 1/16W
R9511	301 269 3901	MT-GLAZE 4.7K DC 1/16W
R9513	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9514	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9515	301 258 9303	MT-GLAZE 220K DC 1/16W
R9516	301 258 9303	MT-GLAZE 220K DC 1/16W
R9517	301 261 5101	MT-FILM 1.0K DU 1/16W
R9519	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9520	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9523	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9526	301 261 5309	MT-FILM 470 DU 1/16W
R9529	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
	(THERMISTOR)	
TH301	308 054 7700	TH NCP15WF104F03-RC
	(FUSES)	
F5001 ⚠	423 034 0905	FUSE 32V 2A
F5002 ⚠	323 031 5609	FUSE 32V 2A
F5003 ⚠	423 033 6205	FUSE 32V 1.6A
F5004 ⚠	323 031 5609	FUSE 32V 2A
F5005 ⚠	323 031 5609	FUSE 32V 2A
F5006 ⚠	323 031 5500	FUSE 32V 1A
F5007 ⚠	323 031 5500	FUSE 32V 1A
	(JACK)	
JK501	645 086 0430	SOCKET,DC 3P
	(CONNECTORS)	
CN101	645 076 4158	PLUG,PWB-PWB 20P (N.S.P.)
CN103	645 093 7026	SOCKET,PWB-WIRE 3(N.S.P.)
CN105	645 098 8134	PLUG,PWB-PWB 20P (N.S.P.)
CN110	645 086 0638	SOCKET,10P (N.S.P.)
CN191	645 097 3888	SOCKET,IF(HDMI) 1(N.S.P.)
CN301	645 097 6155	SOCKET,FPC 17P (N.S.P.)
CN302	645 073 7060	SOCKET,FPC 6P (N.S.P.)
CN901	645 092 7836	PLUG,PWB-PWB 44P (N.S.P.)
CN951	645 095 5433	SOCKET,FPC 27P (N.S.P.)

LOCATION	PARTS NO.	DESCRIPTION
	(MISCELLANEOUS)	
	636 121 5244	HOLDER TERMINAL BAT-SG314
	411 178 9403	SCR S-TPG PAN PCS 1.7X4.0
	636 121 5534	TERMINAL BATT-SG314/J

COMPL PWB,TB-1

636 120 9816

	(SEMICONDUCTORS)		
Q1403	305 167 0406	TR EMD12	
OR	405 218 3902	TR UP0431300	
OR	305 216 2108	TR RN4984FE	
	(RECHARGEABLE BATTERY)		
Z6301 ⚠	945 051 6000	BATTERY,RECHARGE	
	(CAPACITORS)		
C1401	303 311 7301	CERAMIC	4700P K 25V
C1402	303 309 8402	CERAMIC	10P D 50V
C1403	303 309 8402	CERAMIC	10P D 50V
C1404	303 309 8402	CERAMIC	10P D 50V
C1405	303 309 8402	CERAMIC	10P D 50V
C1406	303 309 8402	CERAMIC	10P D 50V
C1408	303 311 7301	CERAMIC	4700P K 25V
C1409	303 311 7301	CERAMIC	4700P K 25V
C1410	303 311 5109	CERAMIC	3P C 50V
	(RESISTOR PACKS)		
RB141	645 029 5980	R-NETWORK 100X4 1/32W	
RB142	645 040 1756	R-NETWORK 10KX4 1/32W	
RB143	645 040 1756	R-NETWORK 10KX4 1/32W	
	(RESISTORS)		
R1401	301 224 8804	MT-GLAZE	100 JA 1/16W
R1402	301 225 8100	MT-GLAZE	10 JA 1/16W
	(CONNECTORS)		
CN141	645 092 8185	SOCKET,CARD(SD)12(N.S.P.)	
CN142	945 075 2231	SOCKET,PWB-PWB 20(N.S.P.)	

COMPL PWB,TB-2

636 120 5054

	(SWITCH)		
S6501	645 092 3159	SWITCH,PUSH 1P-1TX1	
	(MISCELLANEOUS)		
	636 122 6318	ASSY,WIRE VF1&TB2-SG314 (N.S.P.)	
	636 122 6325	ASSY,WIRE VF1&TB2-SG314 (N.S.P.)	

COMPL PWB,TB-3

636 120 9823

	(INTEGRATED CIRCUIT)		
IC611	409 690 2309	IC MRX1518HTA	
	(CAPACITOR)		
C6101	303 343 4705	CERAMIC	0.1U K 10V
	(SWITCH)		
S6110	645 057 0773	SWITCH,PUSH 1P-1T	
	(CONNECTOR)		
CN611	645 073 7060	SOCKET,FPC 6P (N.S.P.)	

COMPL PWB,TB-4

636 120 9830

	(SWITCHES)		
S6201	645 054 8857	SWITCH,PUSH 1P-2TX1	
S6202	645 079 1499	SWITCH,PUSH(4DIR+CENTER)	
S6203	645 098 9094	SWITCH,PUSH 1P-1T	
S6204	645 057 0773	SWITCH,PUSH 1P-1T	
S6205	645 057 0773	SWITCH,PUSH 1P-1T	
	(CONNECTORS)		
CN621	645 097 6155	SOCKET,FPC 17P (N.S.P.)	
CN622	645 073 7060	SOCKET,FPC 6P (N.S.P.)	

LOCATION	PARTS NO.	DESCRIPTION

COMPL PWB,VF-1

636 120 9809

	(CAPACITORS)		
C1701	303 391 3804	CERAMIC	1U K 6.3V
C1702	403 455 1002	CERAMIC	1U K 10V
C1703	303 396 9504	CERAMIC	2.2U K 10V
C1704	303 396 9504	CERAMIC	2.2U K 10V
C1705	303 396 9504	CERAMIC	2.2U K 10V
C1706	303 396 9504	CERAMIC	2.2U K 10V
C1707	303 281 2405	CERAMIC	0.22U K 16V
C1708	303 281 2405	CERAMIC	0.22U K 16V
C1709	303 383 5007	CERAMIC	1U K 16V
C1710	303 383 5007	CERAMIC	1U K 16V
C1712	303 391 3804	CERAMIC	1U K 6.3V
	(RESISTOR PACKS)		
RB171	645 072 9119	R-NETWORK 150X4 1/16W	
RB172	645 072 9119	R-NETWORK 150X4 1/16W	
	(RESISTORS)		
R1701	301 226 1506	MT-GLAZE	0.000 ZA 1/16W
R1702	301 228 4505	MT-GLAZE	2.2 JA 1/16W
R1703	301 224 8903	MT-GLAZE	100K JA 1/16W
	(CONNECTORS)		
CN171	645 093 9228	SOCKET,FPC 39P (N.S.P.)	
CN172	645 093 7033	SOCKET,PWB-WIRE 3(N.S.P.)	

COMPL PWB,ST-1

636 120 5276

	(SEMICONDUCTOR)		
Q5402	406 021 5107	TR TIG032TS-S-TL-E	
	(INTEGRATED CIRCUIT)		
IC541	409 684 3800	IC BD4218NUV	
	(DIODES)		
D5401	307 245 6805	DIODE FPSN4	
D5402	407 265 1900	DIODE RE0208DA-TR-E	
D5404	307 221 4108	DIODE MA2SD19	
	(TRANSFORMERS)		
T5401	645 097 3864	TRANS,STEP UP	
T5402	645 084 1835	TRANS,STEP UP	
	(CAPACITORS)		
C5401	303 392 5005	CERAMIC	22U M 6.3V
C5410	303 428 3302	CERAMIC	0.022U K 350V
C5411	303 428 3609	CERAMIC	0.01U K 350V
C5431	303 391 3804	CERAMIC	1U K 6.3V
C5432	303 391 3804	CERAMIC	1U K 6.3V
C5433	303 311 3501	CERAMIC	1000P K 50V
C5434	303 311 3501	CERAMIC	1000P K 50V
C5435	303 311 5000	CERAMIC	33P J 50V
	(RESISTOR PACK)		
RB541	645 029 5997	R-NETWORK 1KX4 1/32W	
	(RESISTORS)		
R5402	302 106 1609	MT-GLAZE	100K JD 1/8W
R5422	302 106 1708	MT-GLAZE	220K JD 1/8W
R5424	301 224 9009	MT-GLAZE	10K JA 1/16W
R5425	301 225 1804	MT-GLAZE	47 JA 1/16W
R5431	301 224 8804	MT-GLAZE	100 JA 1/16W
R5432	301 224 9009	MT-GLAZE	10K JA 1/16W
R5433	301 225 0609	MT-GLAZE	5.6K JA 1/16W
R5434	301 225 0203	MT-GLAZE	3.3K JA 1/16W
R5435	301 224 8804	MT-GLAZE	100 JA 1/16W
	(CONNECTOR)		
CN541	645 092 3906	SOCKET,PWB-PWB 20 (N.S.P.)	

CIRCUIT DIAGRAMS & PRINTED WIRING BOARDS

TABLE OF CONTENTS

NOTES:

1. **All resistance values in "OHMS" unless otherwise noted.**
   (K=1,000 ; M=1,000,000)
2. **All capacitance values in "μF" unless otherwise noted.**
   p=pico farad ; n=nano farad ; μ ,u or U=micro farad
3. **All inductance values in "μH" unless otherwise noted.**
   μ ,u or U=micro henry ; m=milli henry

Figure of printed wiring boards

Multilayer board:

"Side A" means the view from A side of the board.
"Side B" means the view from B side of the board.

Singlelayer board:

View from the copper-foil side of the board, otherwise noted.

PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY.
SHOULD ANY COMPONENT DESIGNATED BY A SYMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST.
DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

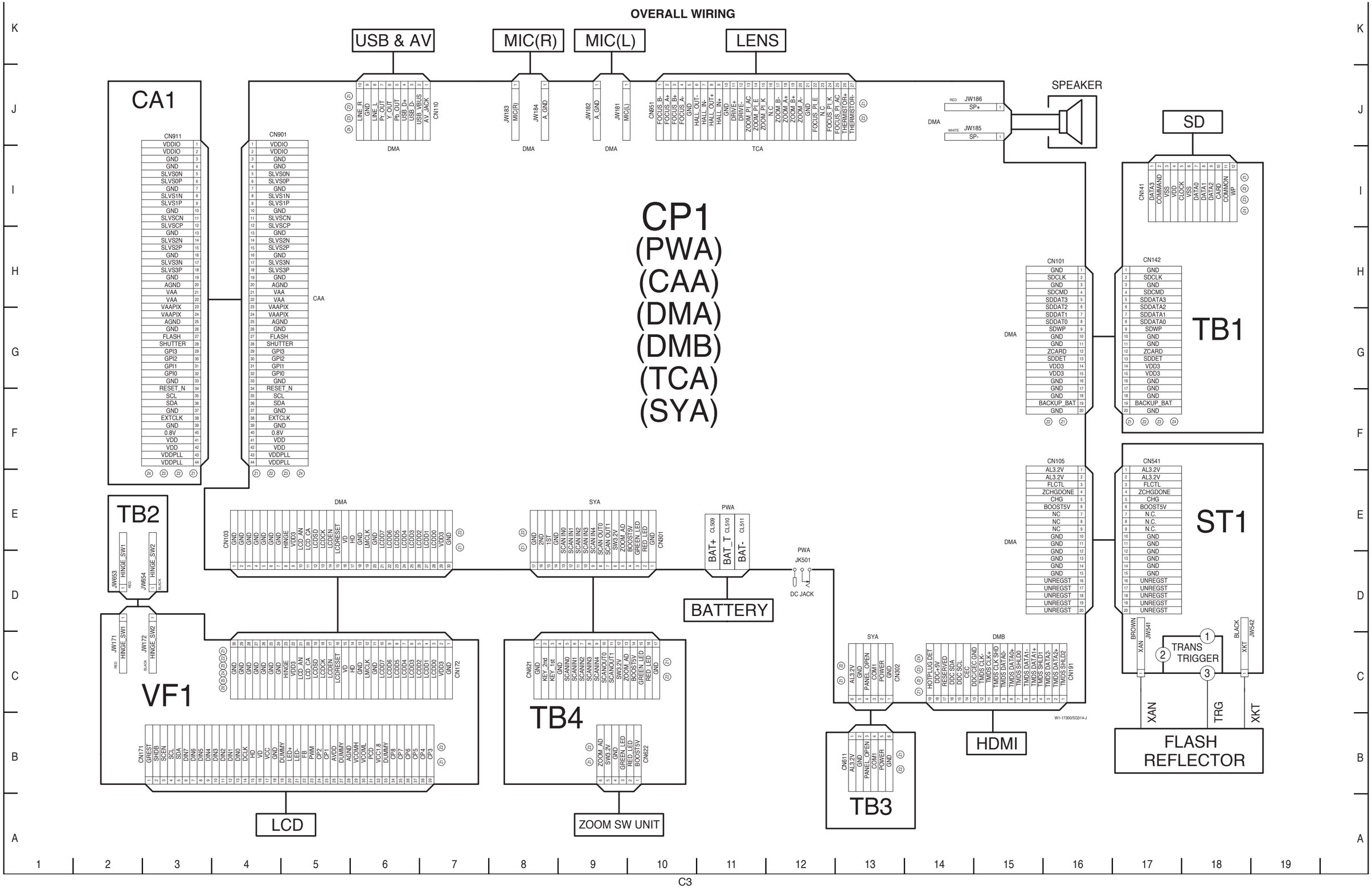
EXPLANATORY NOTES (EXAMPLES)

Resistor	**10K:1/16J means 10kilo ohm ±5%, 1/16watt max.**
	1M:1/10D means 1mega ohm ±0.5%, 1/10watt max.
	(Tolerance K:±10%, J:±5%, G:±2%, F:±1%, D:±0.5%)
Capacitor	**0.047:F means 0.047micro farad, Ftype.**
Electrolytic capacitor	
	10:16 means 10micro farad, 16volt max.
Inductor	**330:J means 330micro henry ±5%**
	470:K means 470micro henry ±10%
	No description J or K means ±5%

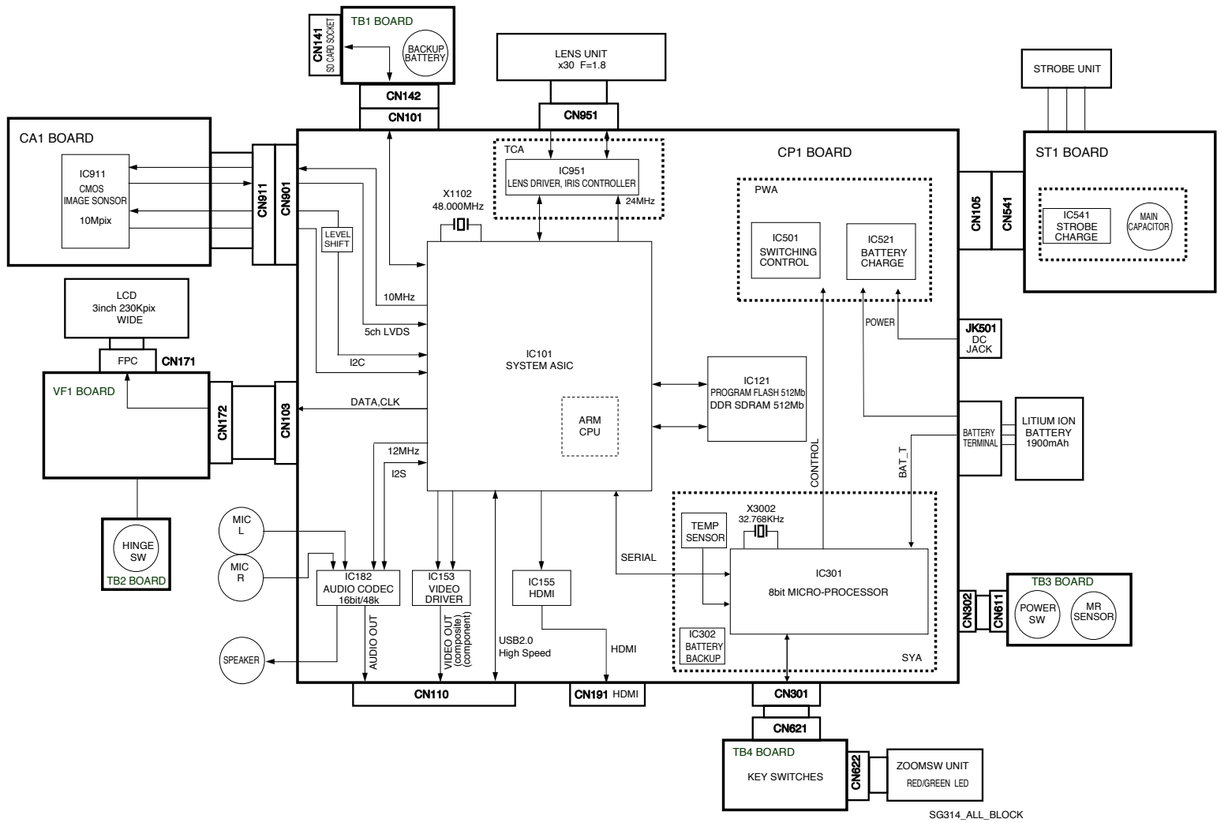
The number of "H=##" written in slant character, shows the voltage.
The number of "H=##" written in upright character, shows the height of the parts.

PAL-H-EX

OVERALL WIRING & BLOCK DIAGRAMS

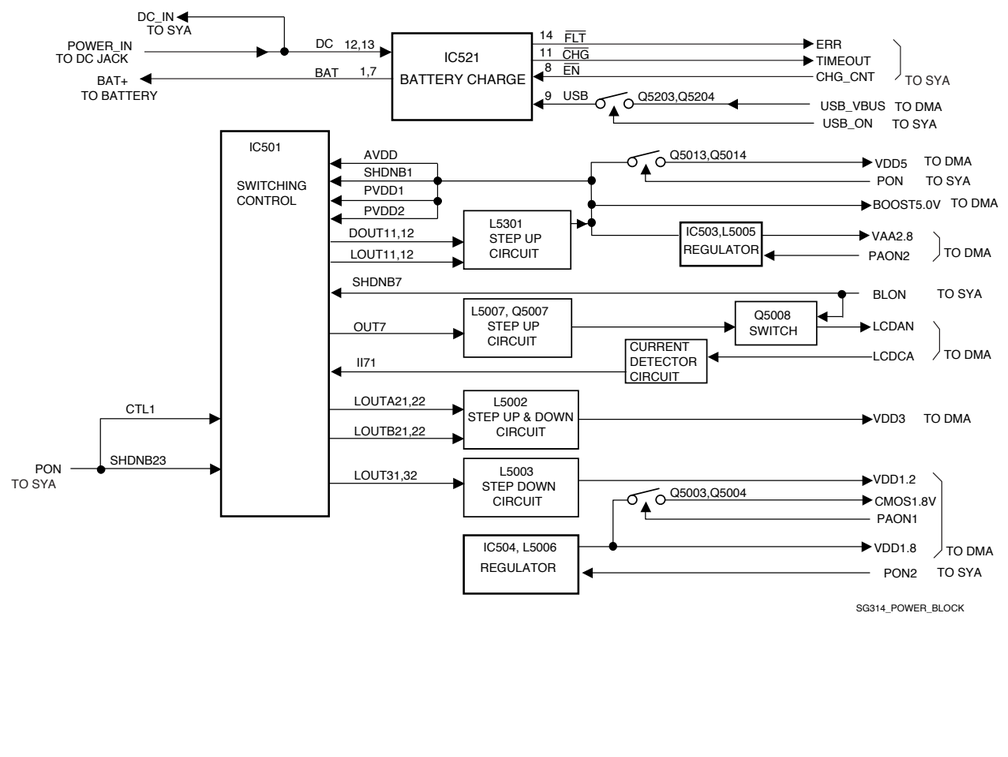


OVERALL CIRCUIT



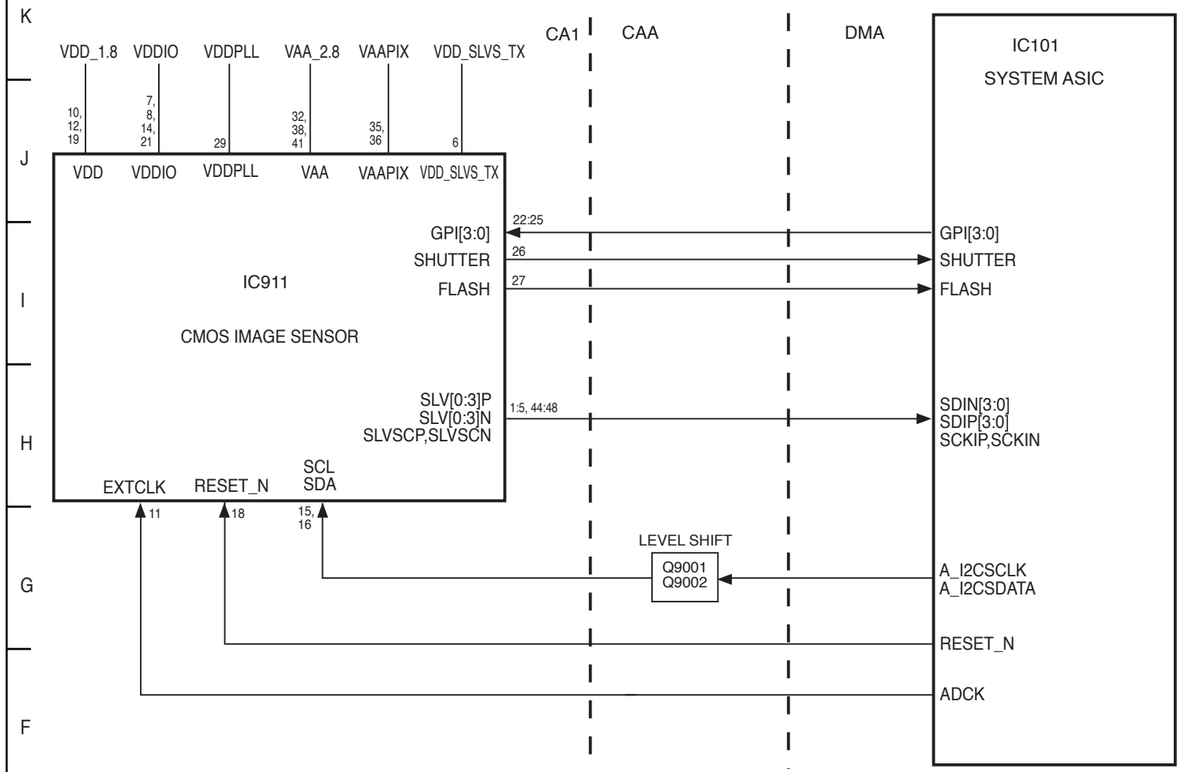
SG314_ALL_BLOCK

POWER CIRCUIT

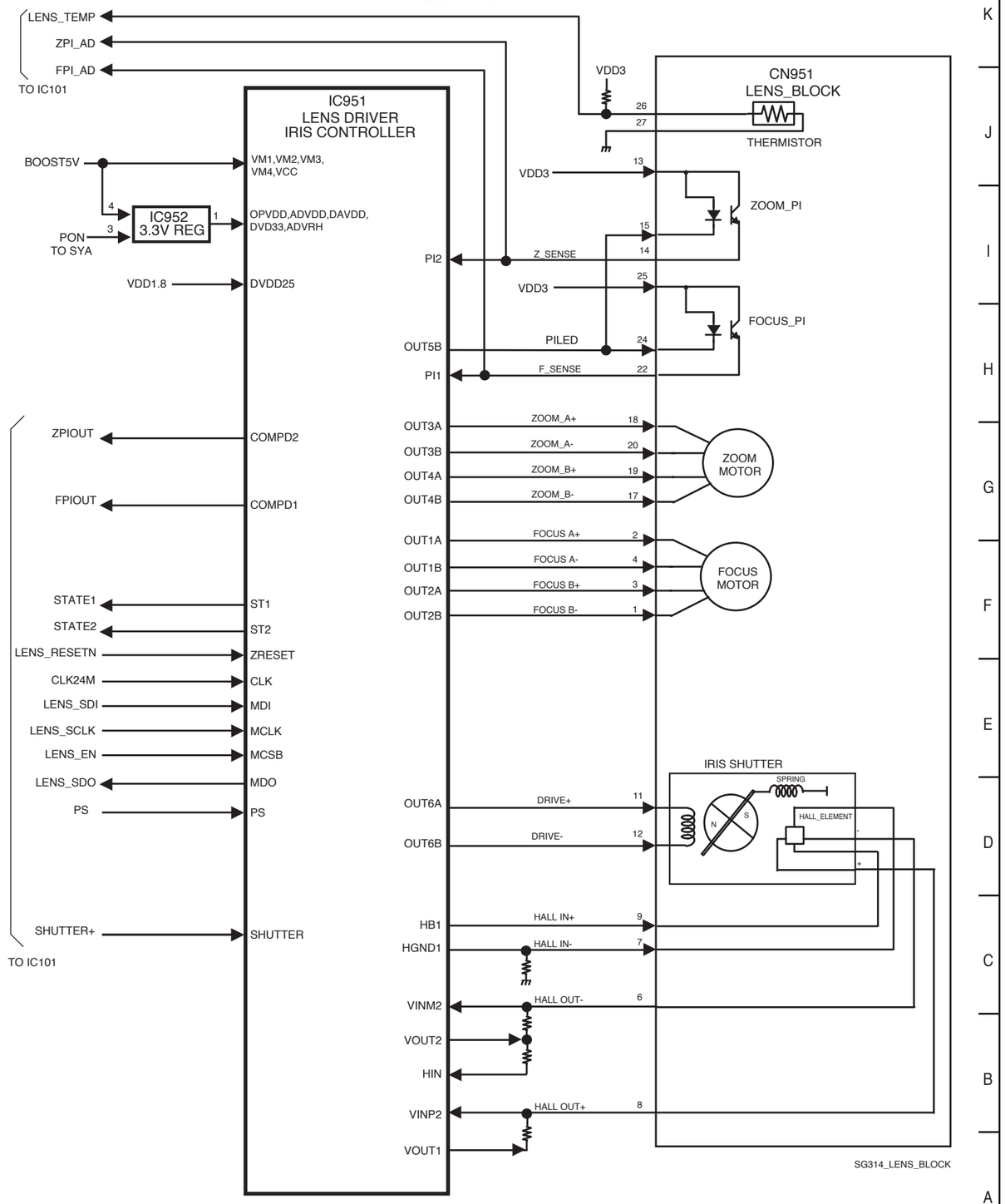


SG314_POWER_BLOCK

IMAGE SENSOR CIRCUIT



LENS CIRCUIT



C5

MAIN CIRCUIT

CA1 BOARD

LENS UNIT

TB1 BOARD

VF1 BOARD

CN901 BtoB

SDA

SCL

ADCK

SLVD[0:3][N,P]

SLVSC[N,P]

FLASH/RESET

GPI[0:3]

LEVEL SHIFT

Q9001

Q9002

A_I2CSDATA

A_I2CSCLK

CN951 FPC

IC951 LENS DRIVER

SHUTTER+/LENS_RESET

LENS_SCLK/LENS_EN/LENS_SD

PS

STATE1/STATE2

FPIOUT/ZPIOUT

CLK24

FPI_AD/ZP_AD/LENS_TEMP

CN101 BtoB

SDCLK

SDDAT[0:3]

SDCMD

SDDET

SDWP

CN103 BtoW

LMCLK

LCDD[0:7]

LCDHD/LCDVD

IC121
PROGRAM FLASH 512Mb
DDR_SDRAM 512Mb

DQ[0:31]/DQS[0:3]/DQM[0:3]

DSA[0:12]

DSCK[N,P]

ZRAS/ZCAS

ZCS0

ZFRD/ZFWR

A[1:16]

D[0:15]

IC101

SYSTEM ASIC

XO

XI

X1102
48.000MHz

PAON1/PAON2

PON/PON2

PWA BLOCK
POWER SUPPLY

USB_VBUS
TO CN110

POWER/PANELOPEN

CN302 FPC

TB3 BOARD

MRST

PLLEN

SREQ

ASIC_SCK

ASIC_SDI

ASIC_SDO

COMREQ

IC301
8bit MICRO-PROCESSOR

KEY[1st,2nd]

STBY RED/GREEN

CN301 FPC

TB4 BOARD

ST_CHG

CN105 BtoB

ST1 BOARD

FLCTL

A_I2CSDATA/A_I2CSCLK

VPIXCLK/Y[0:7]/UV[0:7]

IC191
HDMI
TRANSMITTER

TMDS_DATA[0:3][N,P]

DDC/CEC

CN191 HDMI

YOUT

UOUT

VOUT

IC153
VIDEO DRIVER

DACDAT/BCLK/LRCLK

Y OUT

Pb OUT

Pr_OUT

IC182
AUDIO CODEC

AUDIO L OUT

AUDIO R OUT

ADCDAT

AMCLK

AUDEN/AUDSD/AUDCK

MICL/MICR

CN110
AV & USB

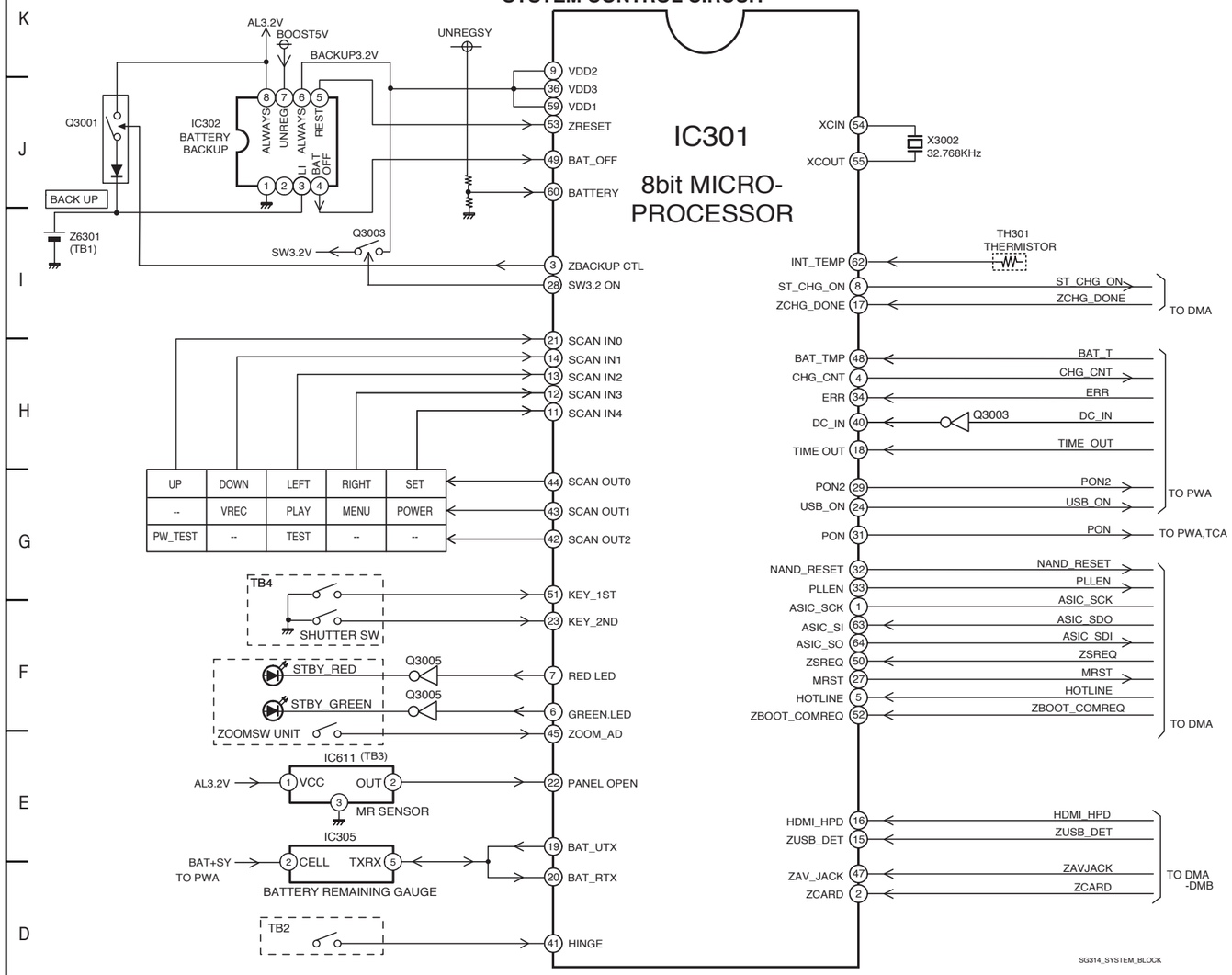
USB D+

USB D-

USB_VBUS
TO PWA

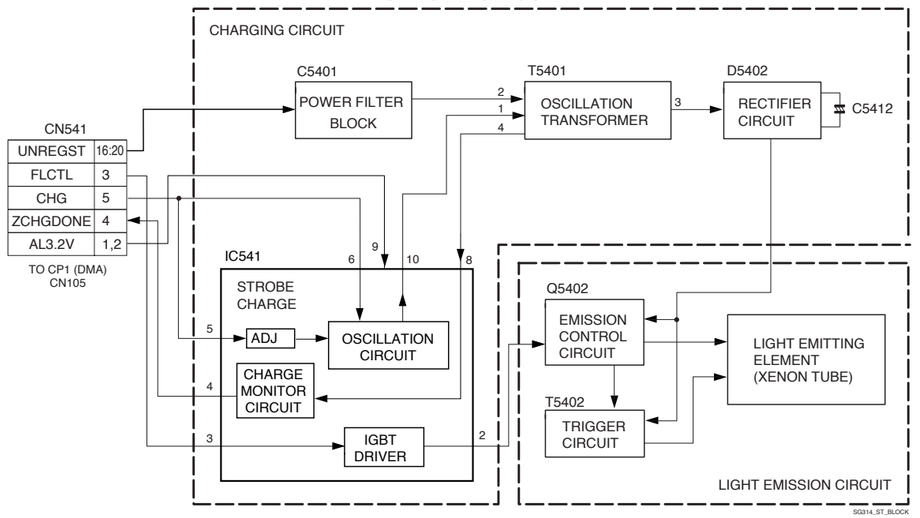
SG314_MAIN_BLOCK

SYSTEM CONTROL CIRCUIT



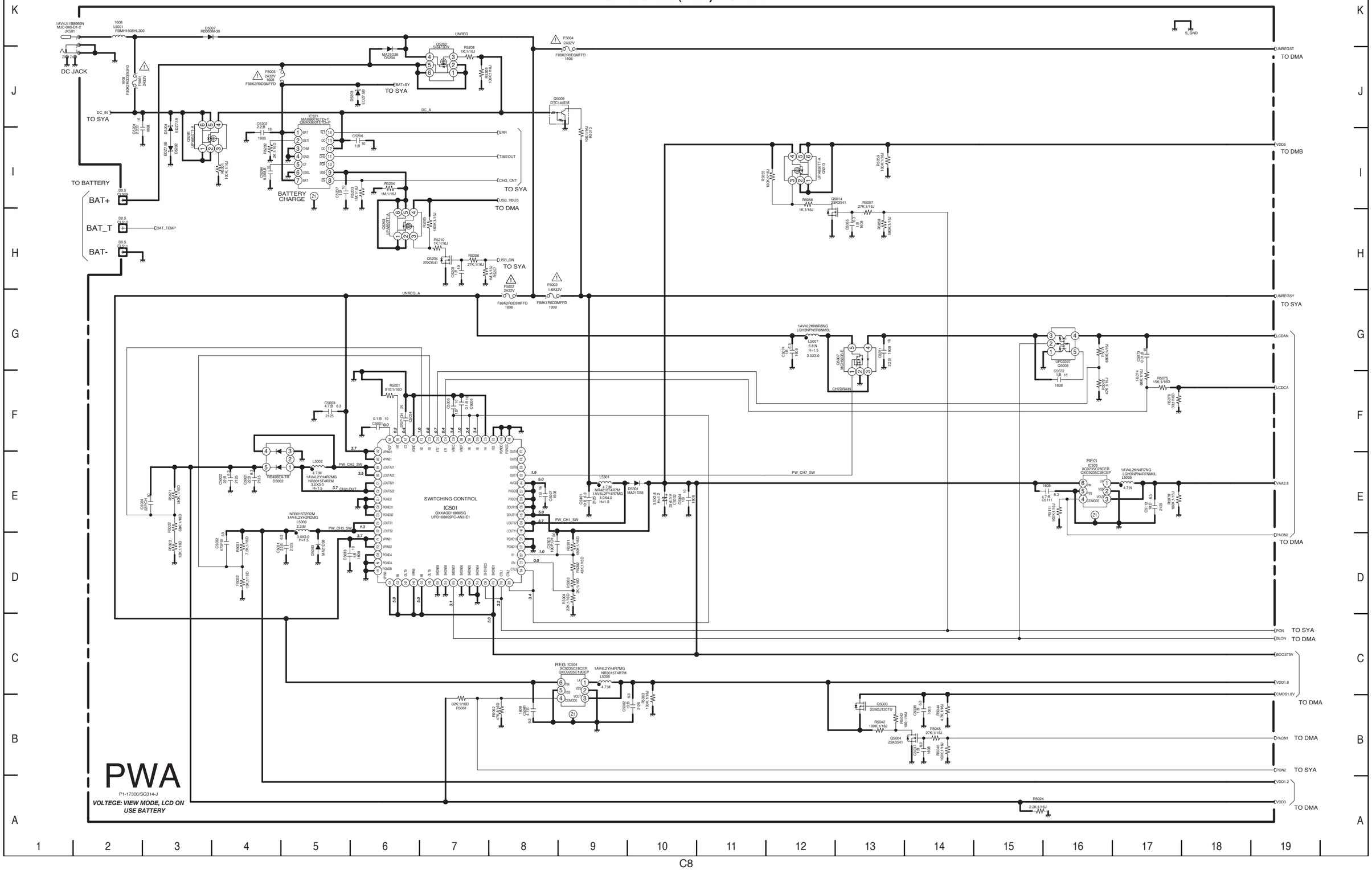
SG314_SYSTEM_BLOCK

STROBE CIRCUIT



SG314_ST_BLOCK

CP1 BOARD (PWA) POWER



PWA

P1-17300/SG314-J

VOLTEGE: VIEW MODE, LCD ON
USE BATTERY

CA1 BOARD IMAGE SENSOR

CA1

C2-17300/SG314-J

VOLTAGE: VIEW MODE, LCD ON

CN911

VDDIO	1
VDDIO	2
GND	3
GND	4
SLVS0N	5
SLVS0P	6
GND	7
SLVS1N	8
SLVS1P	9
GND	10
SLVSCN	11
SLVSCP	12
GND	13
SLVS2N	14
SLVS2P	15
GND	16
SLVS3N	17
SLVS3P	18
GND	19
AGND	20
VAA	21
VAA	22
VAAPIX	23
VAAPIX	24
AGND	25
GND	26
FLASH	27
SHUTTER	28
GPI3	29
GPI2	30
GPI1	31
GPI0	32
GND	33
RESET_N	34
SCL	35
SDA	36
GND	37
EXTCLK	38
GND	39
0.8V	40
VDD	41
VDD	42
VDDPLL	43
VDDPLL	44

Z4 Z3 Z2 Z1

TO CP1(CAA)CN901

1.8 VDDIO — L9101 FBMH1608HL601 1608

SDIN0 SDIP0 SDIN1 SDIP1 SCKIN SCKIP SDIN2 SDIP2 SDIN3 SDIP3

2.8 VAA2.8 — L9102 FBMH1608HL601 1608

2.8 VAAPIX — R9101 0;1/16Z 1608

FLASH SHUTTER GPI3 GPI2 GPI1 GPI0

RESET_N SCL SDA ADCK

VDDSLVS_TX

CMOS1.8 — L9103 FBMH1608HL601 1608

2.8 VDDPLL — R9102 0;1/16Z 1608

L9104 FBMH1608HL601 1608

C9101 10;B
C9106 10;B
C9107 10;B
C9112 0.1;B
C9103 10;B
C9109 10;B
R9103 0;1/16Z
R9104 0;1/16Z
R9105 0;1/16Z

C9118 0.1;B
C9119 0.1;B
C9121 0.1;B
C9124 0.1;B
C9116 0.1;B
C9117 0.1;B
C9120 0.1;B
C9122 0.1;B
C9123 0.1;B
C9125 0.1;B
C9126 0.1;B
C9127 0.1;B
C9128 10;B
R9106 0;1/16Z
R9107 0;1/16Z

IC911
MT9J001I12STCY(LLCC)
QXXAGB067--M
CMOS IMAGE SENSOR

1	VDD_SLVS_TX	43	SLVS3P
2	VDDIO	44	SLVS3N
3	GND	45	SLVS2P
4	VDD	46	SLVS2N
5	EXTCLK	47	SLVSCP
6	VDD	48	SLVSCN
7	GND	1	SLVS1P
8	VDDIO	2	SLVS1N
9	VDD_SLVS	3	SLVS0P
10	VDD	4	SLVS0N
11	TEST	5	VDD_SLVS_TX
12	RESET_N	6	
13	SCL	7	
14	SDA	8	
15	VDDIO	9	
16	GND	10	
17	VDD	11	
18	VDD	12	
19	GND	13	
20	VDDIO	14	
21	GND	15	
22	GPI0	16	
23	GPI1	17	
24	GPI2	18	
25	GPI3	19	
26	SHUTTER	20	
27	FLASH	21	
28	GND	22	
29	VDDPLL	23	
30	VPP	24	
31	AGND	25	
32	VAA	26	
33	ATEST1_BTM	27	
34	ATEST2_BTM	28	
35	VAAPIX	29	
36	VAAPIX	30	
37	PIXGND	31	
38	VAA	32	
39	ATEST2_TOP	33	
40	ATEST1_TOP	34	
41	VAA	35	
42	AGND	36	
43	GND	37	

SDIP3 SDIN3 SDIP2 SDIN2 SCKIP SCKIN SDIP1 SDIN1 SDIP0 SDIN0

C9 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 — A B C D E F G H I J K

CP1 BOARD (CAA) LEVEL SHIFT

CAA

C1-17300/SG314-J

0.8V REG
IC901
XC6221B082G
QXC6221B082GP

2.8V REG
IC903
TK70628HCL-G

2.8V REG
IC902
TK70628HCL-G
QTK70628HC-GG

1005
R9004
0;1/16Z

TO DMA

TO DMA

TO DMA

TO DMA

TO DMA

TO DMA

TO CA1 CN911

CN901	
1	VDDIO
2	VDDIO
3	GND
4	GND
5	SLVS0N
6	SLVS0P
7	GND
8	SLVS1N
9	SLVS1P
10	GND
11	SLVSCN
12	SLVSCP
13	GND
14	SLVS2N
15	SLVS2P
16	GND
17	SLVS3N
18	SLVS3P
19	GND
20	AGND
21	VAA
22	VAA
23	VAAPIX
24	VAAPIX
25	AGND
26	GND
27	FLASH
28	SHUTTER
29	GPI3
30	GPI2
31	GPI1
32	GPI0
33	GND
34	RESET_N
35	SCL
36	SDA
37	GND
38	EXTCLK
39	GND
40	0.8V
41	VDD
42	VDD
43	VDDPLL
44	VDDPLL

MAIN CIRCUIT WAVEFORMS

TEST POINT LOCATION	WAVEFORM	TEST POINT LOCATION	WAVEFORM
IC101 PIN AE12 XOUT 1V/div 10ns/div		IC101 PIN AB23 A_D4CKOUT 1V/div 10ns/div	
IC101 PIN P3 ADCK 500mV/div 40ns/div		IC101 PIN AB25 D4CKIN 1V/div 4ns/div	
IC101 PIN AD22 LMCLK 1V/div 20ns/div		IC101 PIN Y2 AMCLK 1V/div 20ns/div	
IC101 PIN W17 LCDVD 1V/div 2ms/div		IC101 PIN W20 CLK24M 1V/div 10ns/div	
IC101 PIN AD20 LCDHD 1V/div 10μs/div		IC101 PIN AD13 VPIXCLK 1V/div 4ns/div	

WF-SG314_MAIN

C10

CP1 BOARD (DMA) MAIN

DMA

VOLTAGE: VIEW MODE, LCD ON

IC101

EV3XA

QEV3XA------N

SYSTEM ASIC

IC121

K5W1213LCA-AK60

QXXAGB050---N

DDR SDRAM

PROGRAM FLASH

TO VF1 CN172

TO ST1 CN641

TO DMB

TO SYA

TO CAA

TO TCA

TO PWA

TO TBH CN142

TO SYA

TO USB & AV

C11

DMA

D1-17300/SG314-J

VOLTAGE: VIEW MODE, LCD ON

TO VF1 CN172

CN103

GND	1
GND	2
GND	3
GND	4
GND	5
GND	6
GND	7
HINGE	8
VDD3	9
LCD_AN	10
LCD_CA	11
LCDSD	12
LCDCK	13
LCDEN	14
LCDRESET	15
VD	16
HD	17
GND	18
LMCLK	19
GND	20
LCDD7	21
LCDD6	22
LCDD5	23
LCDD4	24
LCDD3	25
LCDD2	26
LCDD1	27
LCDD0	28
VDD3	29
GND	30

HINGE

LCDAN / LCDCA — TO PWA

LCDSD, LCDCK, LCDEN, LCDRESET, LCDVD, LCDHD, LMCLK, LCDD7, LCDD6, LCDD5, LCDD4, LCDD3, LCDD2, LCDD1, LCDD0

VDD3

CN105

AL3.2V	1
AL3.2V	2
FLCTL	3
ZCHGDONE	4
CHG	5
BOOST5V	6
NC	7
NC	8
NC	9
GND	10
GND	11
GND	12
GND	13
GND	14
GND	15
UNREGST	16
UNREGST	17
UNREGST	18
UNREGST	19
UNREGST	20

TO ST1 CN541

AL3.2V, FLCTL, ZCHGDONE, CHG, BOOST5V — TO SYA

ZCHGDONE, ST_CHG

UNREGST

VPIXCLK, UV0–UV7, Y0–Y7, BCLK, LRCLK, A_HDMI_INT

VDD1.8, VDD1.2, VDD3 (3.3)

IC101

EV3XA

QEV3XA------N

SYSTEM ASIC

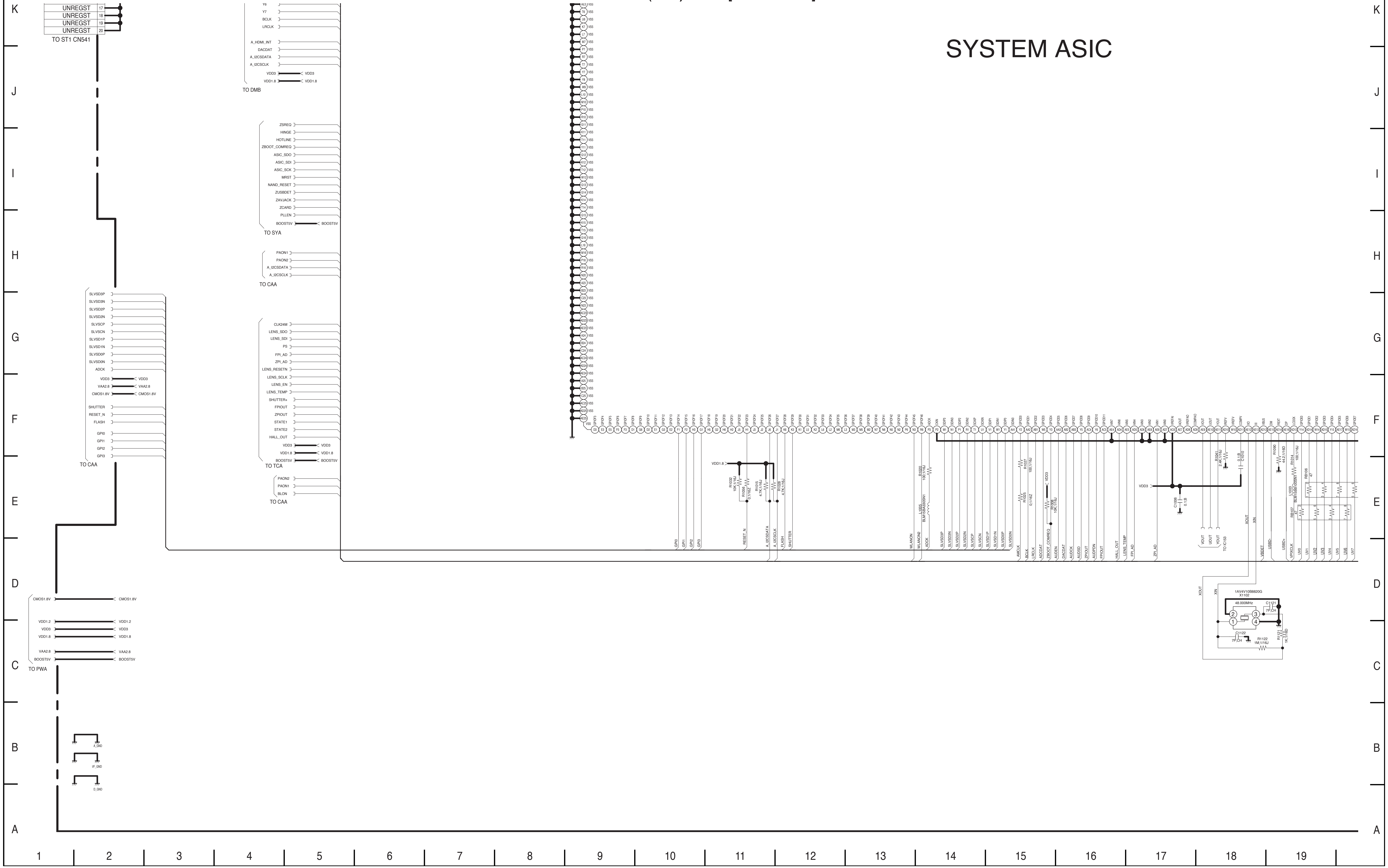
CP1 BOARD (DMA) MAIN [UPPER-RIGHT]

IC121
K5W1213LCA-AK60
QXXAGB050---N

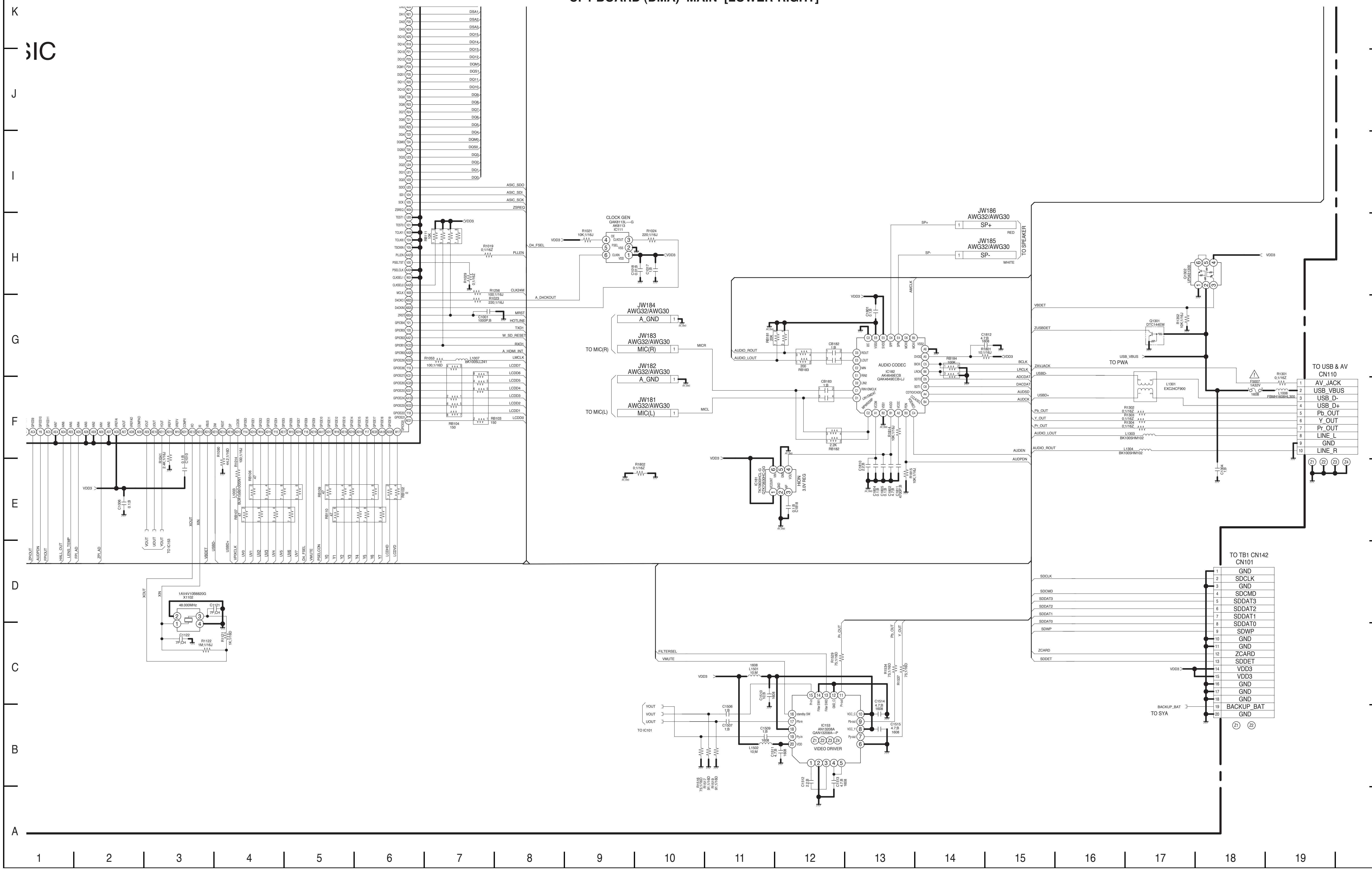
DDR SDRAM
PROGRAM FLASH

C13

CP1 BOARD (DMA) MAIN [LOWER-LEFT]



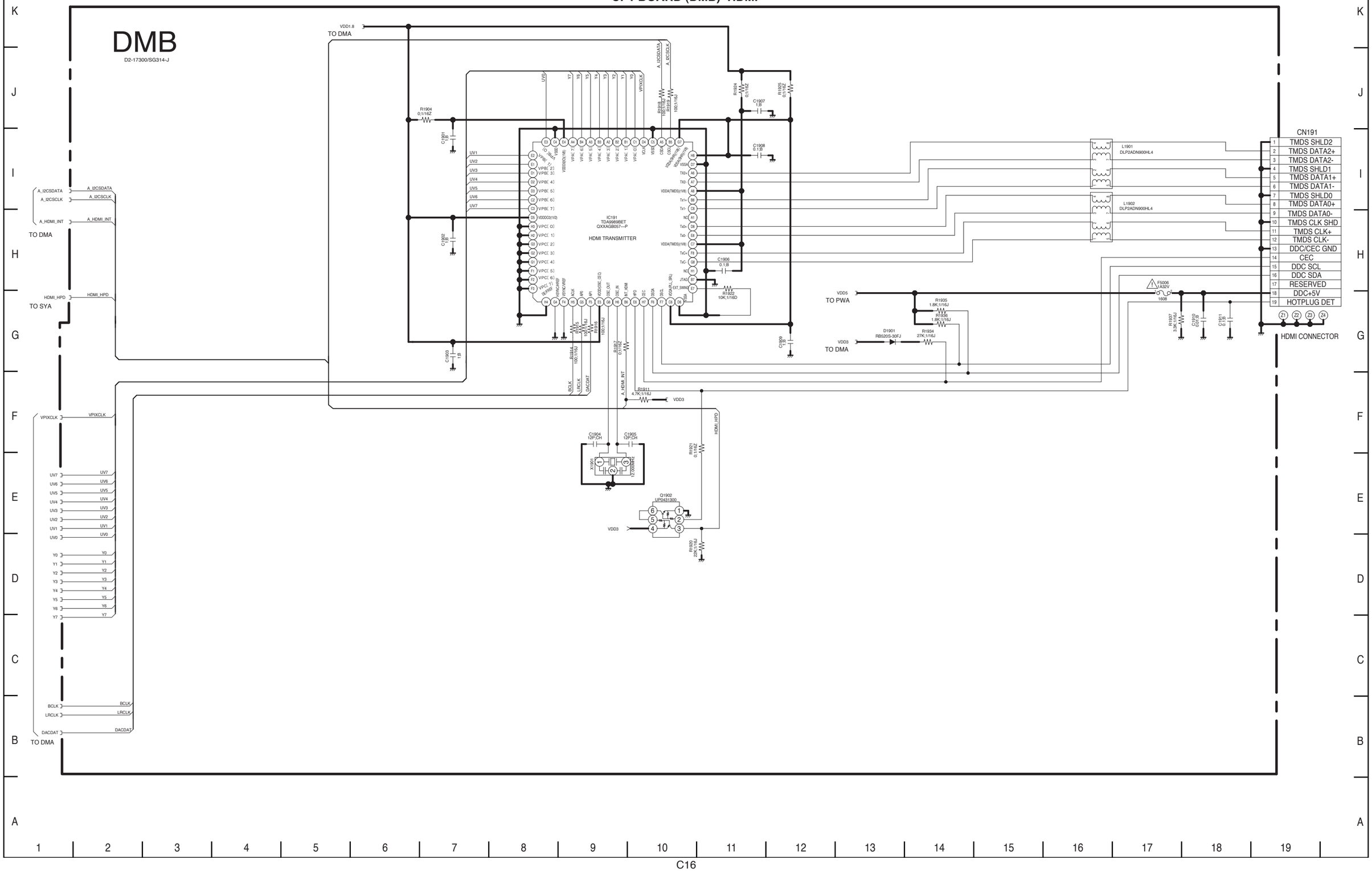
CP1 BOARD (DMA) MAIN [LOWER-RIGHT]



CP1 BOARD (DMB) HDMI

DMB

D2-17300/SG314-J



C16

CP1 BOARD (TCA) LENS

TCA

F1-17300/SG314-J

IC951
LC898200A-H
CXXGA0500131P

LENS DRIVER
IRIS CONTROL

3.3V REG
IC952
XC6221S04XG
QXC6221S04XGP

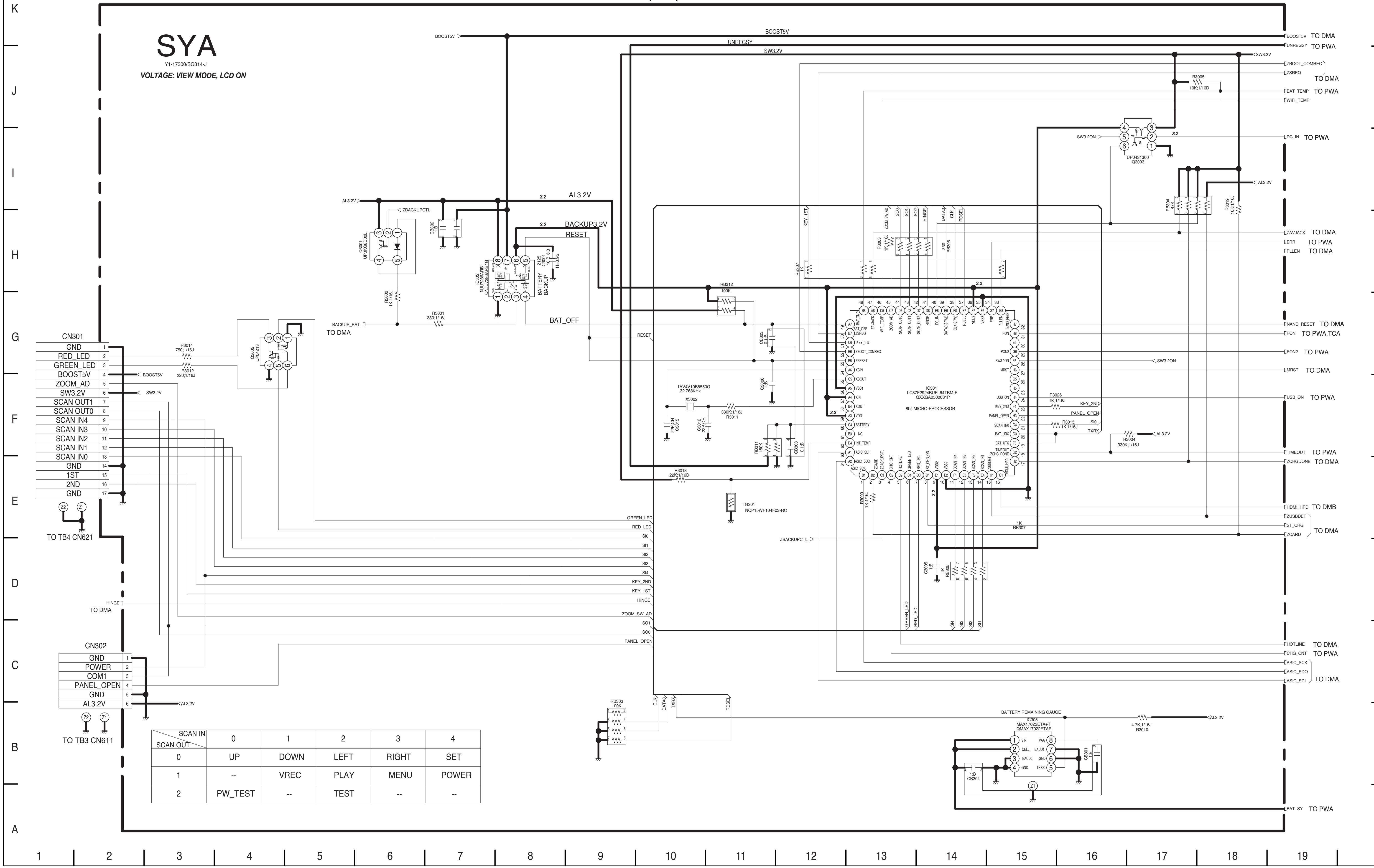
CN951
TO LENS

27	THERMISTOR-
26	THERMISTOR+
25	FOCUS_PI_AC
24	FOCUS_PI_K
23	N.C
22	FOCUS_PI_E
21	GND
20	ZOOM_A-
19	ZOOM_B+
18	ZOOM_A+
17	ZOOM_B-
16	N.C
15	ZOOM_PI_K
14	ZOOM_PI_E
13	ZOOM_PI_AC
12	DRIVE-
11	DRIVE+
10	GND
9	HALL_IN+
8	HALL_OUT+
7	HALL_IN-
6	HALL_OUT-
5	GND
4	FOCUS_A-
3	FOCUS_B+
2	FOCUS_A+
1	FOCUS_B-

TO DMA

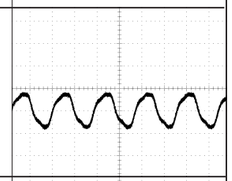
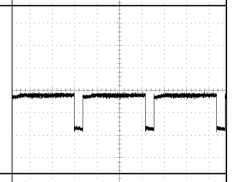
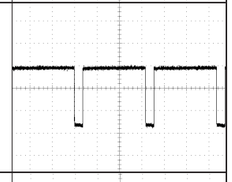
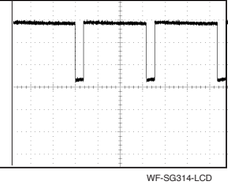
TO SYA

CP1 BOARD (SYA) SYSTEM CONTROL



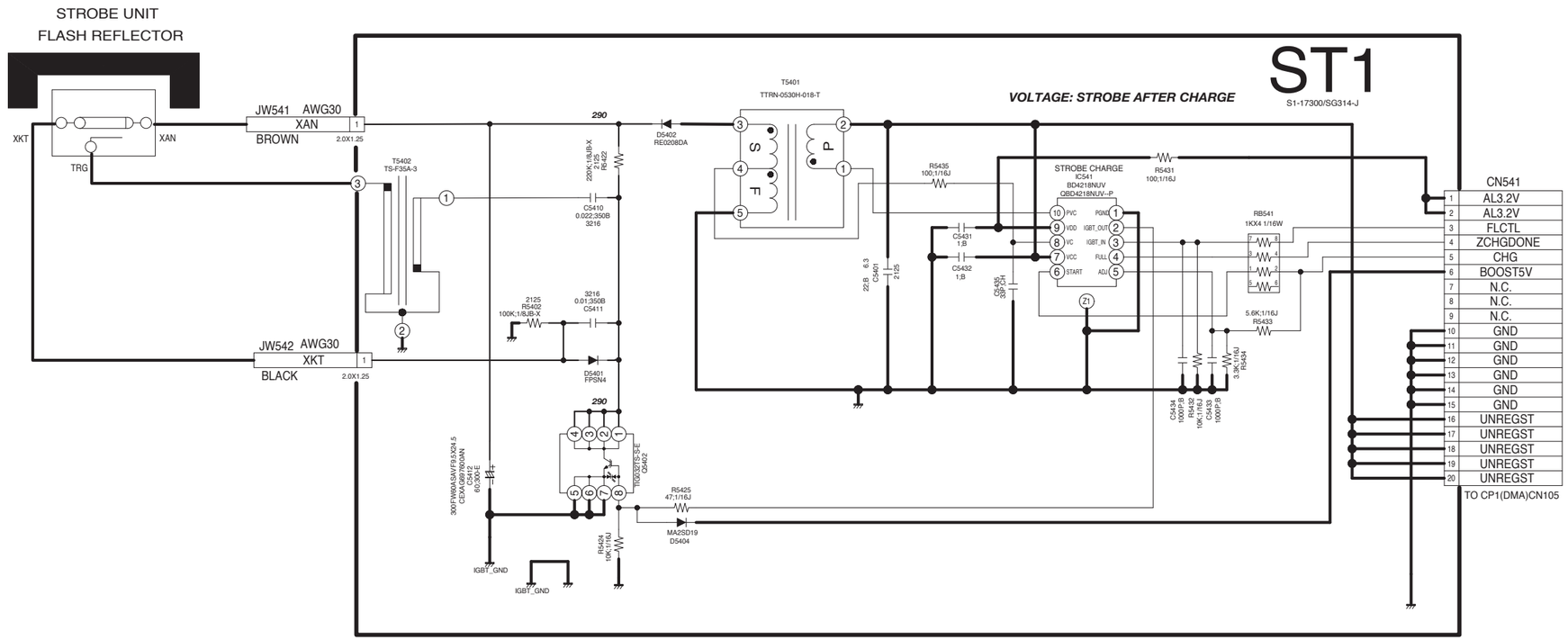
SCAN OUT \ SCAN IN	0	1	2	3	4
0	UP	DOWN	LEFT	RIGHT	SET
1	--	VREC	PLAY	MENU	POWER
2	PW_TEST	--	TEST	--	--

LCD CIRCUIT WAVEFORMS

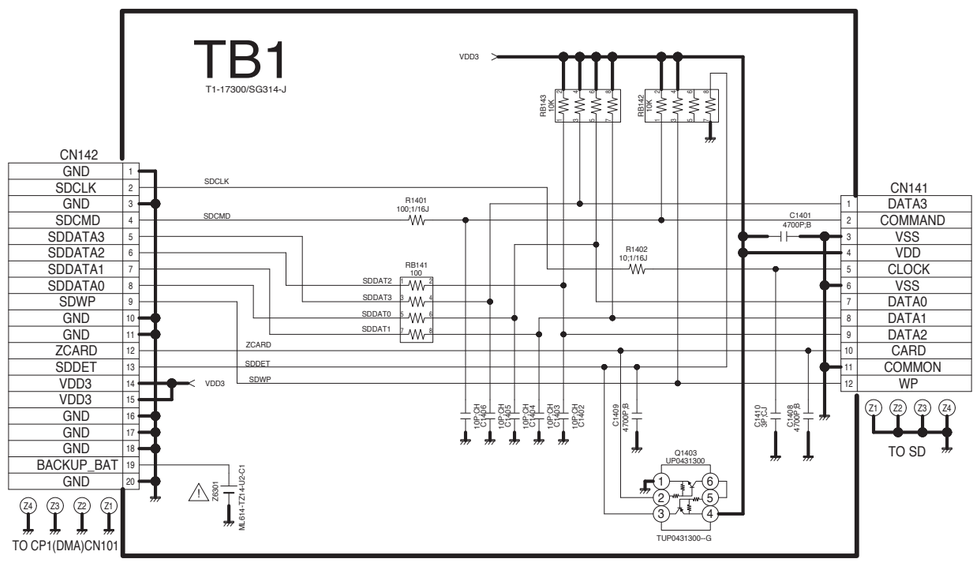
TEST POINT LOCATION	WAVEFORM
CN171 PIN 14 DCLK 2V/div 20ns/div	
CN171 PIN 24 CP2 2V/div 20µs/div	
CN171 PIN 34 CP8 2V/div 20µs/div	
CN171 PIN 36 CP6 2V/div 20µs/div	

WF-SG314-LCD

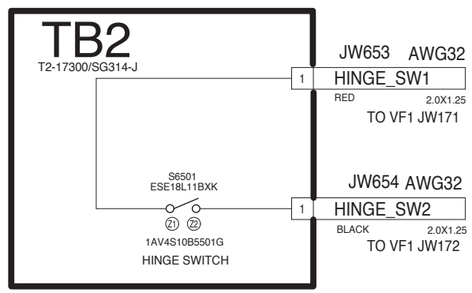
ST1 BOARD STROBE



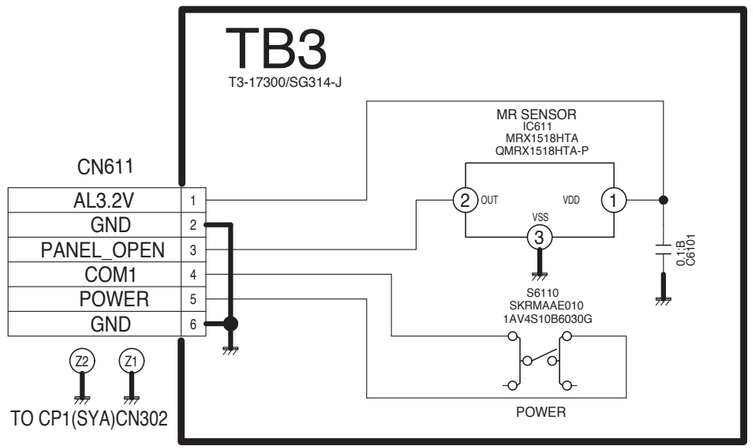
TB1 BOARD SD CARD SOCKET



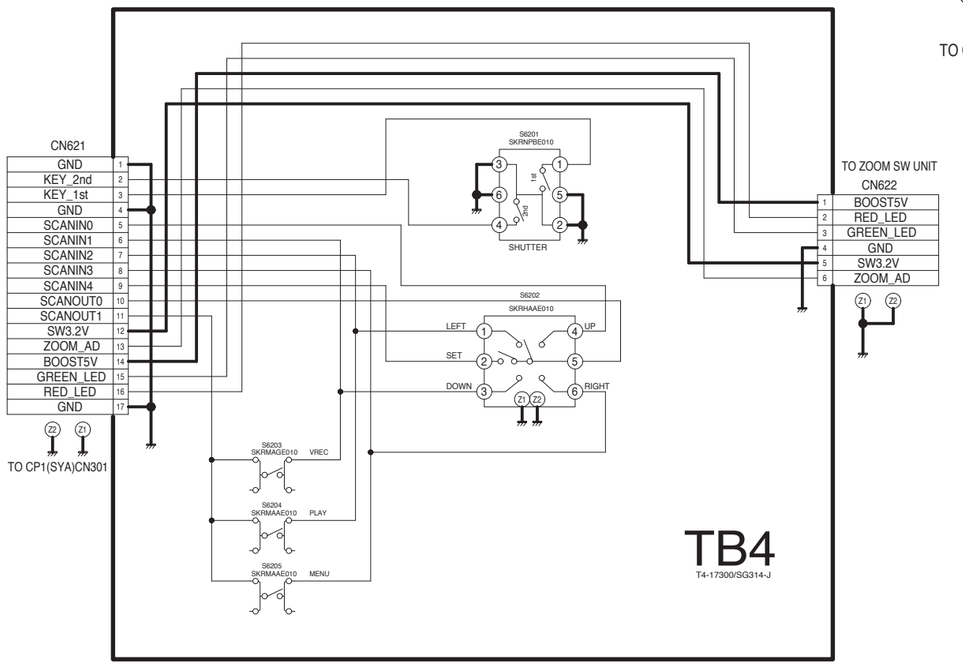
TB2 BOARD HINGE SWITCH



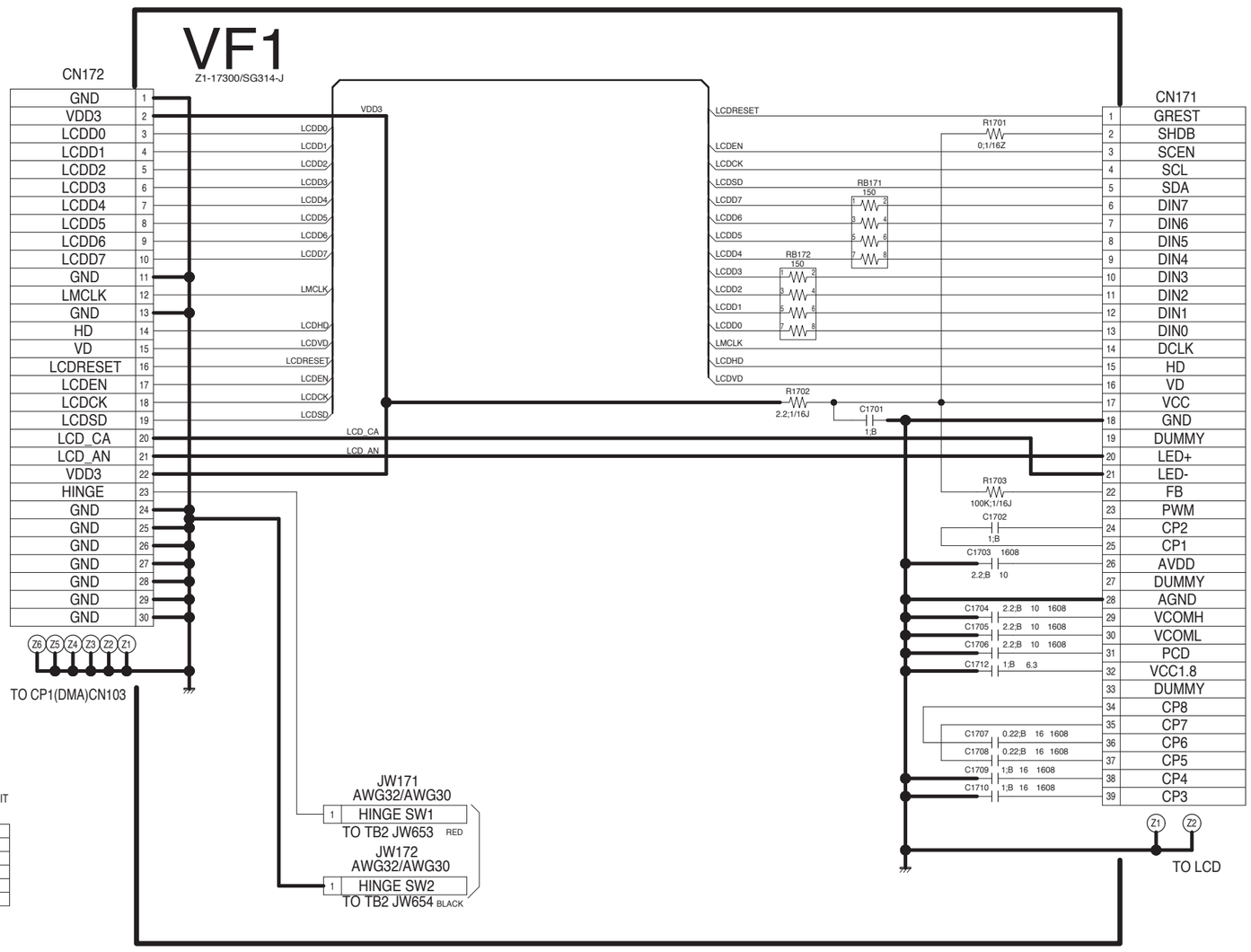
TB3 BOARD MR SENSOR



TB4 BOARD KEY SWITCHES

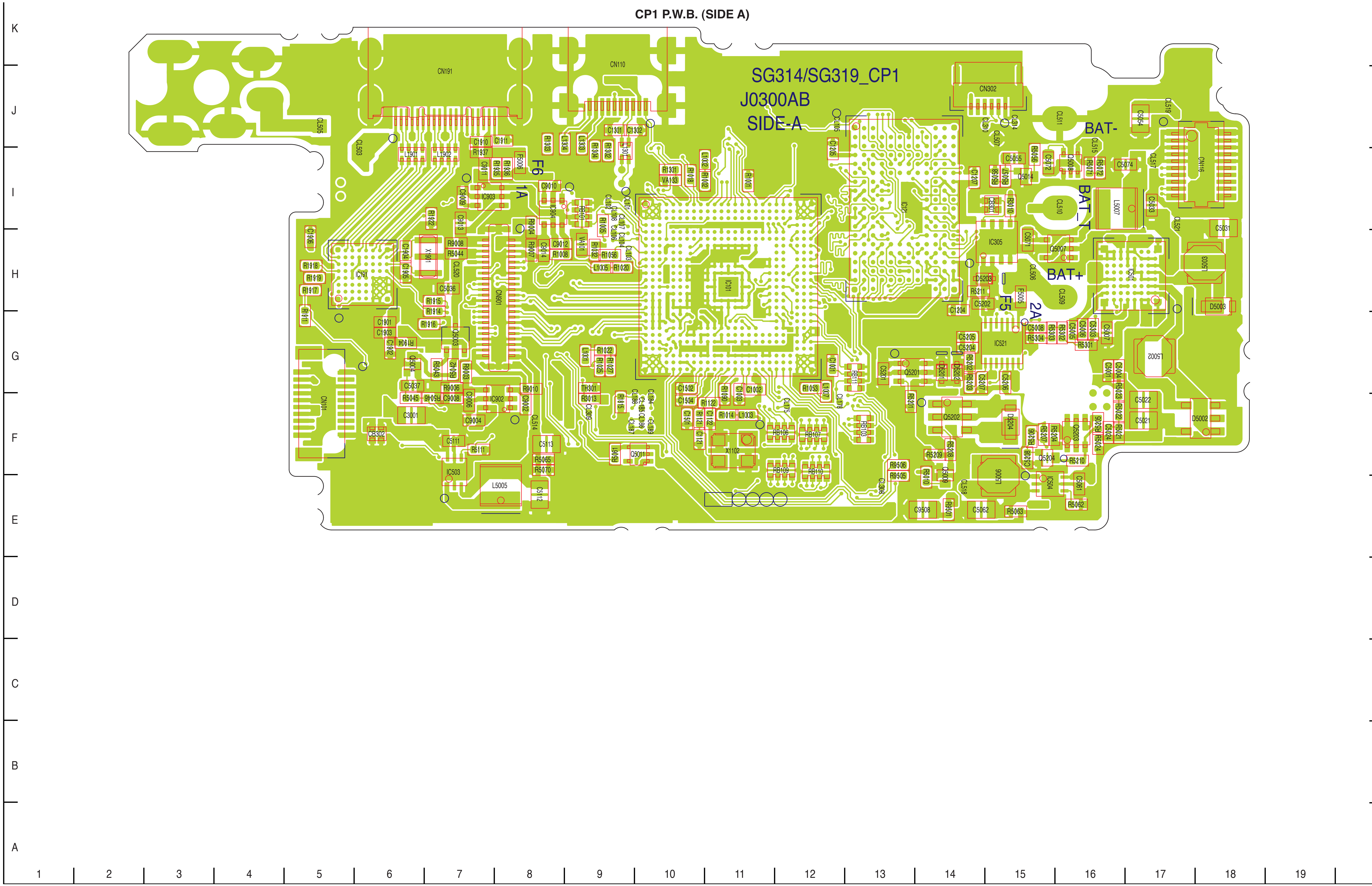


VF1 BOARD LCD CONNECTOR

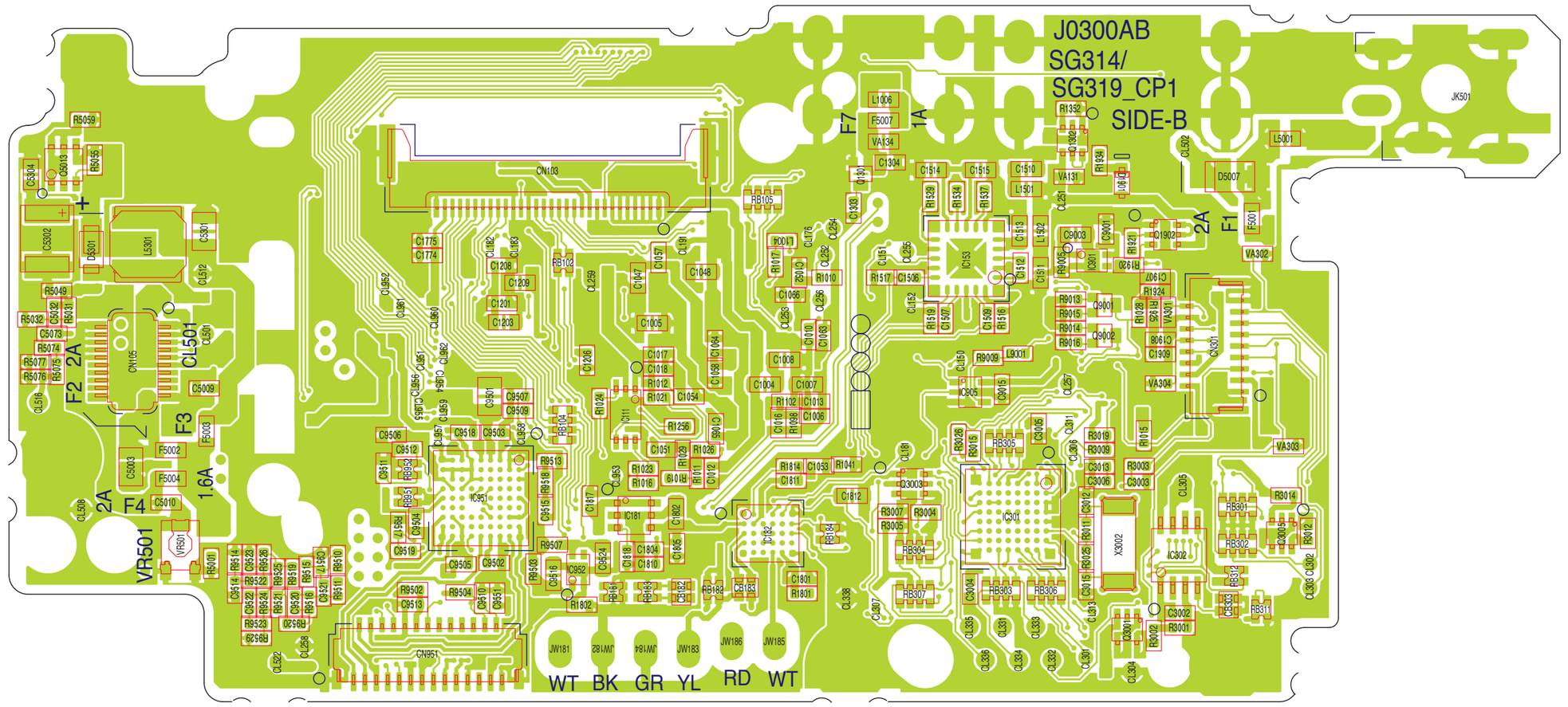


PRINTED WIRING BOARDS (P.W.B.)

CP1 P.W.B. (SIDE A)

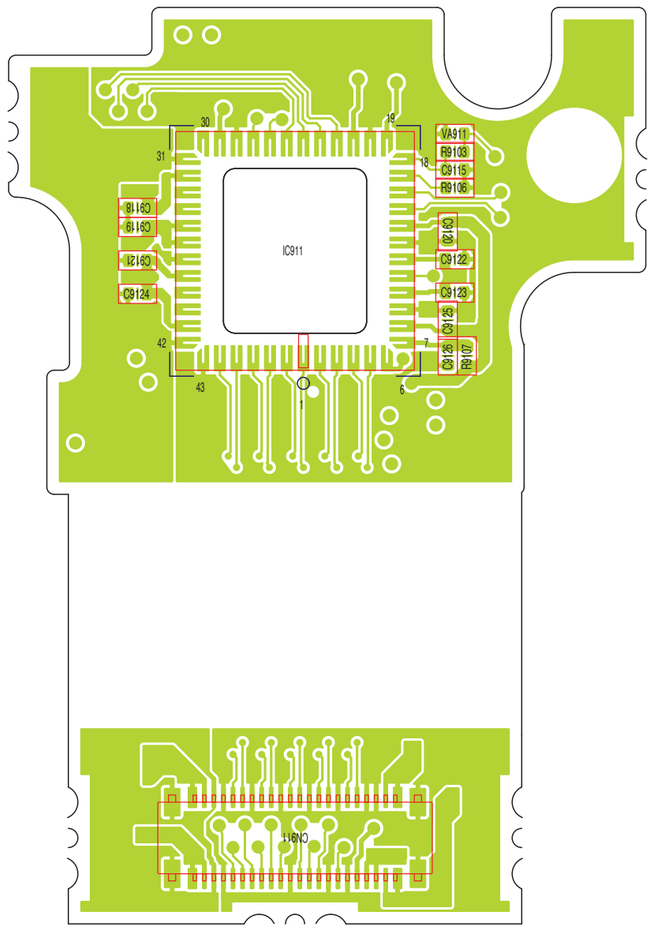


CP1 P.W.B. (SIDE B)

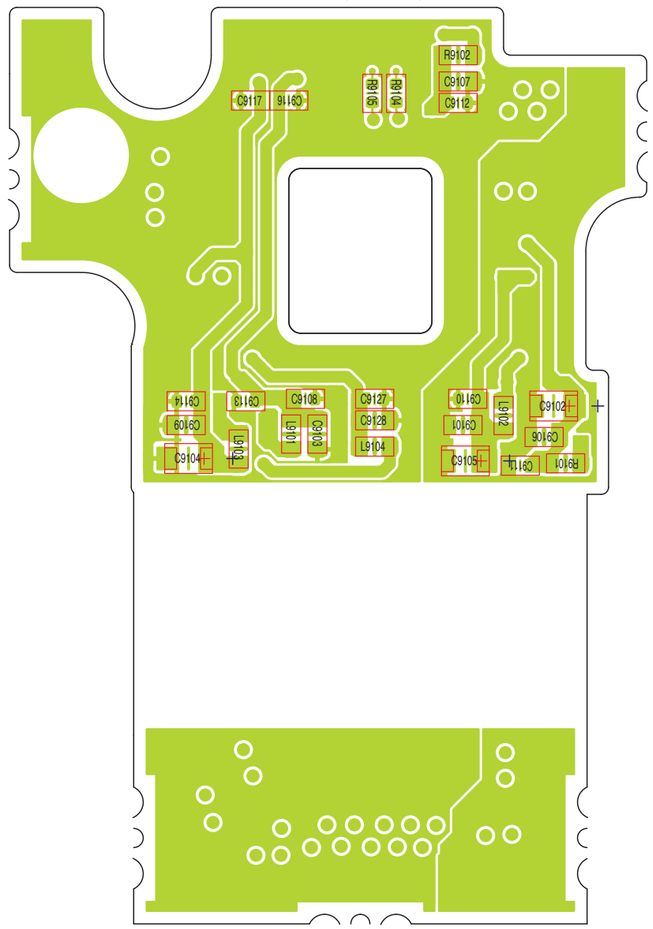


C22

CA1 P.W.B. (SIDE A)

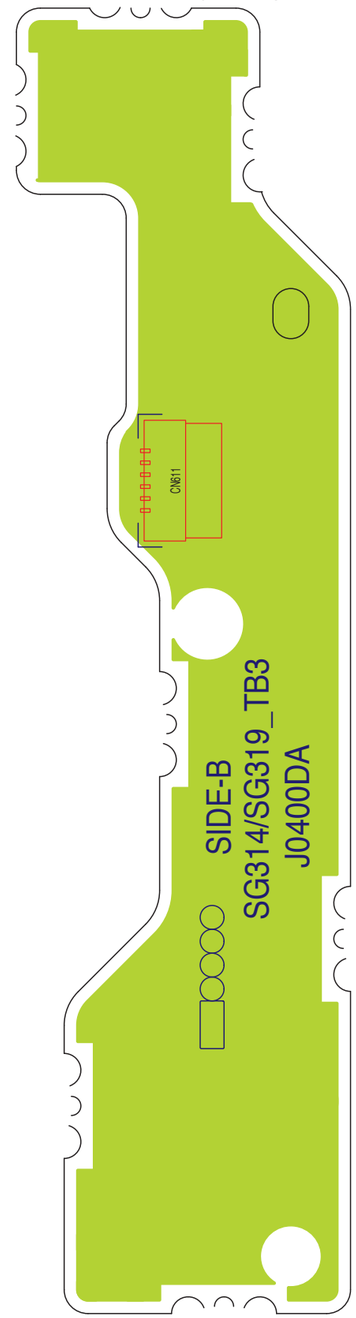


CA1 P.W.B. (SIDE B)



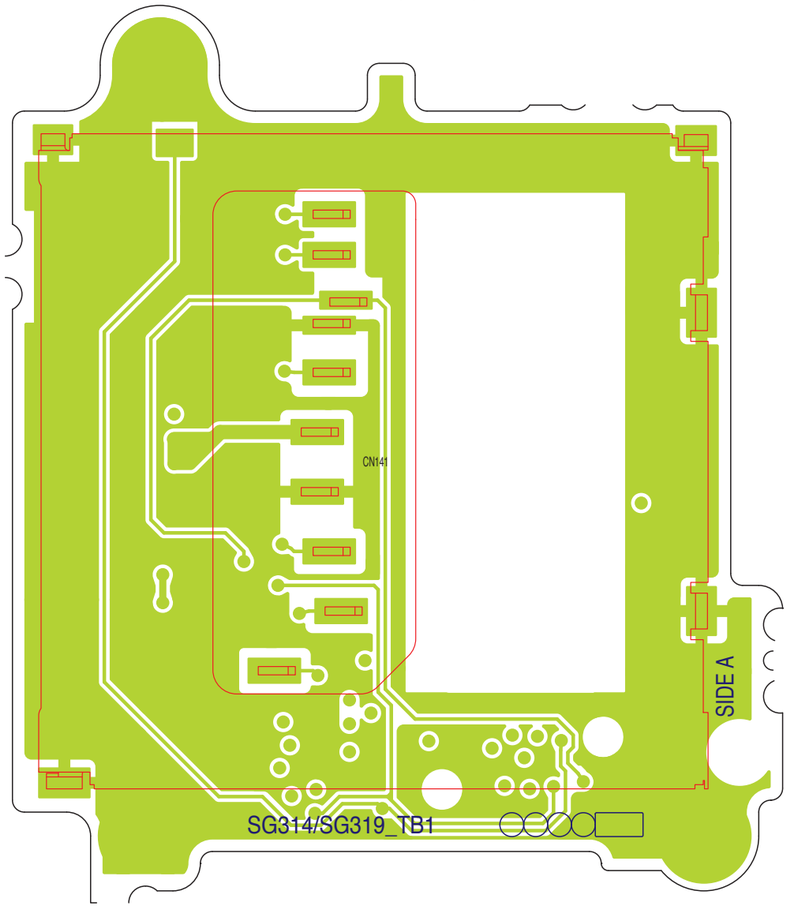
TB3 P.W.B. (SIDE A)

TB3 P.W.B. (SIDE B)

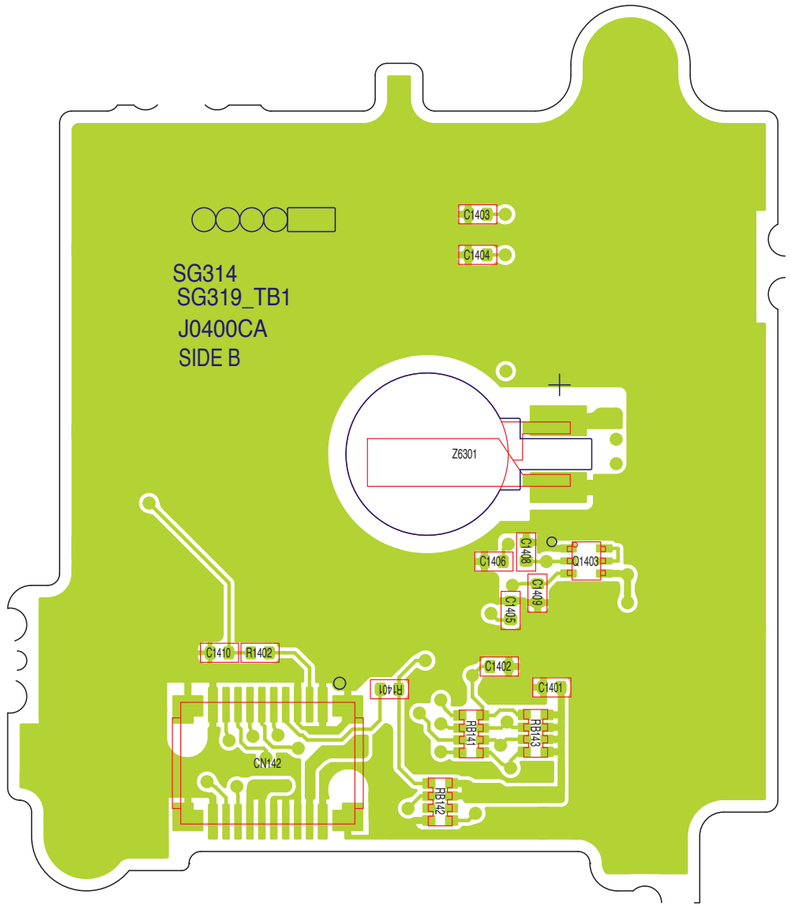


C23

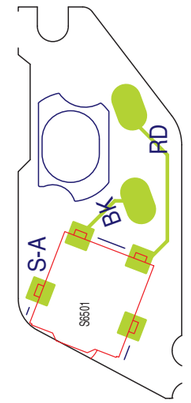
TB1 P.W.B. (SIDE A)



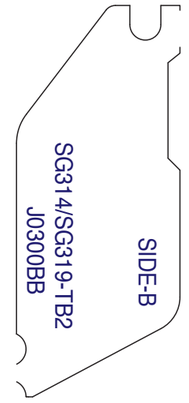
TB1 P.W.B. (SIDE B)



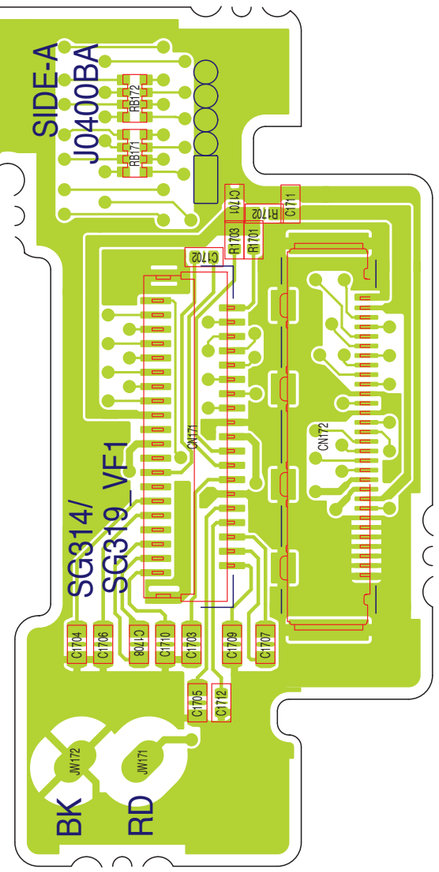
TB2 P.W.B. (SIDE A)



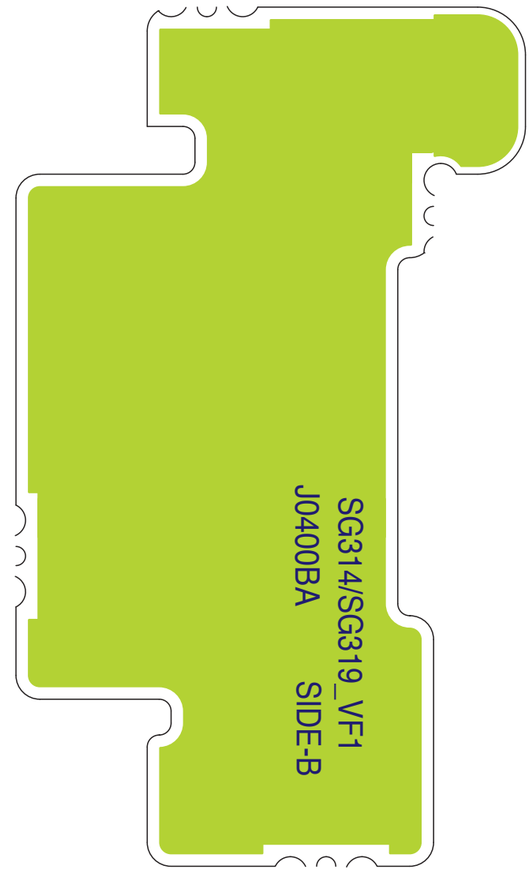
TB2 P.W.B. (SIDE B)



VF1 P.W.B. (SIDE A)

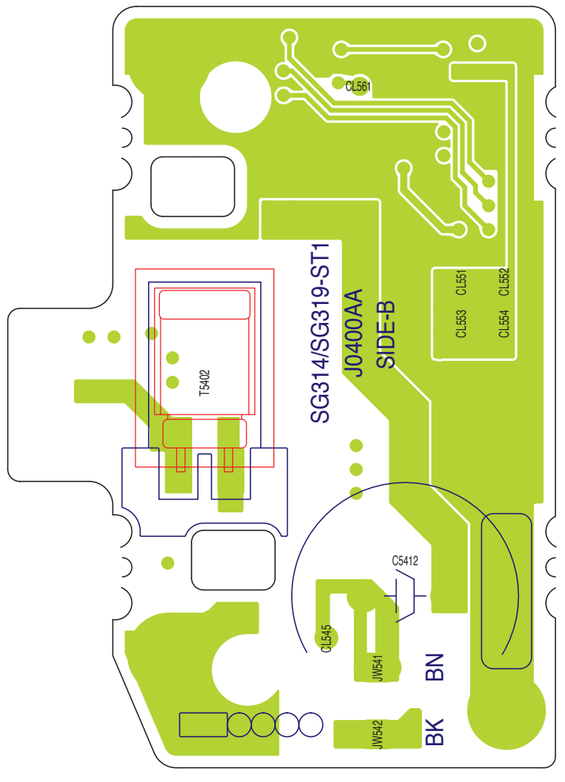


VF1 P.W.B. (SIDE B)

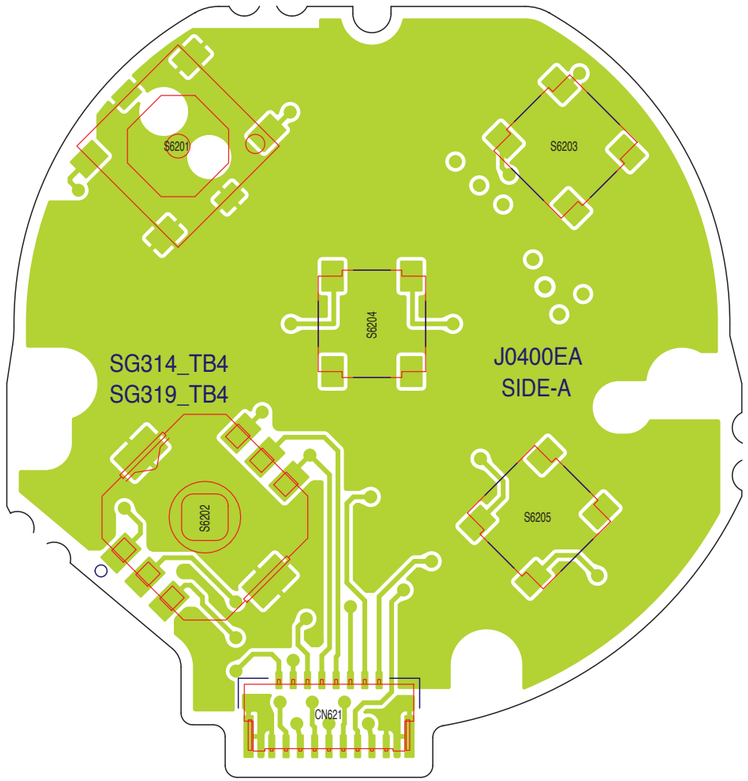


ST1 P.W.B. (SIDE A)

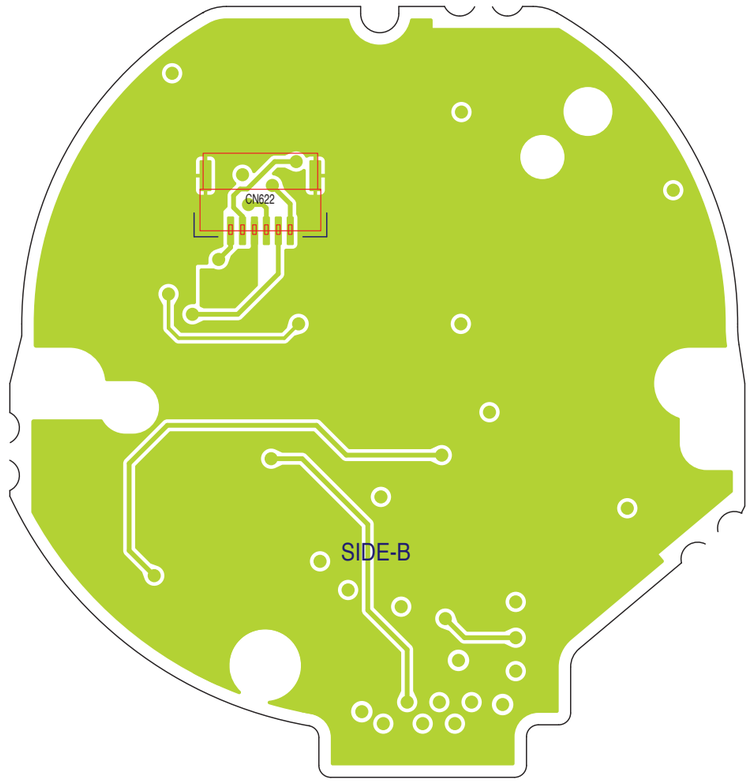
ST1 P.W.B. (SIDE B)



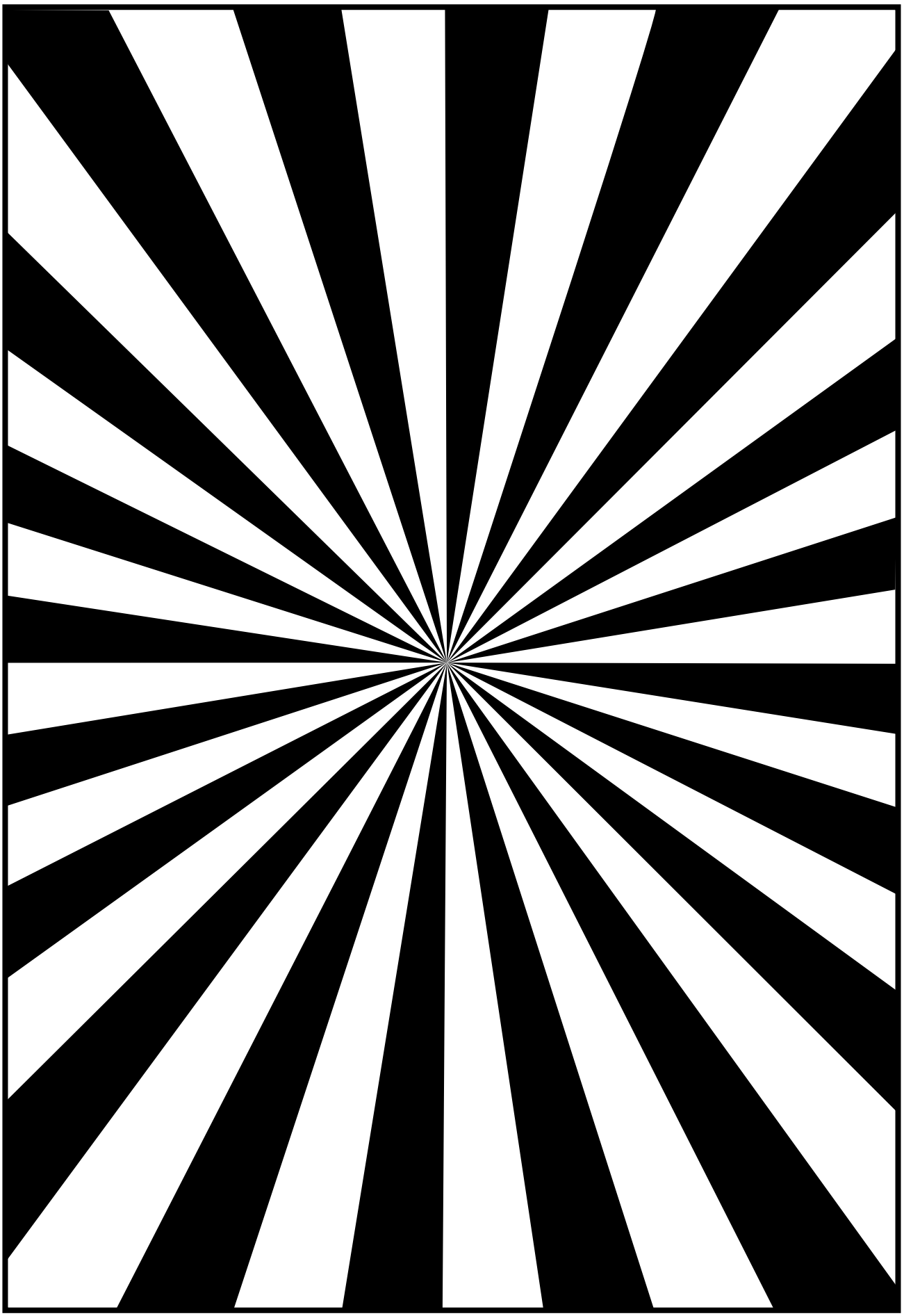
TB4 P.W.B. (SIDE A)



TB4 P.W.B. (SIDE B)



C26



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